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Hospitalized Mothers' Early Postpartum Breast-feeding Experiences

University — Université
University of Alberta

Degree for which thesis was presented — Grade pour lequel cette thèse fut présentée
Master of Nursing

Year this degree conferred — Année d'obtention de ce grade 1981	Name of Supervisor — Nom du directeur de thèse Dr. Janet C. Kerr

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HOSPITALIZED MOTHERS' EARLY POSTPARTUM BREAST-FEEDING EXPERIENCES

by

© Shirley M. Solberg

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF NURSING

EDMONTON, ALBERTA
SPRING, 1981

THE UNIVERSITY OF ALBERTA

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DEGREE FOR WHICH THESIS WAS PRESENTED: Master of Nursing

YEAR THIS DEGREE GRANTED: 1981

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled HOSPITALIZED MOTHERS' EARLY POSTPARTUM BREAST-FEEDING EXPERIENCES submitted by Shirley M. Solberg in partial fulfillment of the requirements for the degree of Master of Nursing.

Janet C. Kerr . . . .
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. . . J. F. Kikuchi . . . .

. David Schiff . . . .

Date . November 25, 1980 .

ABSTRACT

The purposes of this research were to describe the experiences of primiparous women initiating breast-feeding in the early postpartum period and to investigate the relationship between selected variables related to antepartal, intrapartal, and postpartal periods and the degree of perceived success of the mother in initiating breast-feeding. Previous studies have indicated that the nurse plays an important role in promoting successful breast-feeding in the postpartum setting. To facilitate the nurse in performing this role, he or she needs to understand factors relating to success in the mother's ability to initiate breast-feeding.

The subjects consisted of 40 primiparous women who delivered a healthy infant at a large metropolitan hospital within a three week period. Data collection was by patient interview using a standardized interview schedule administered by the investigator. Frequencies and crosstabulations were used to describe the subjects' experiences initiating breast-feeding. Factor analysis was performed on the indicators of a successful initiation of breast-feeding. One-way analysis of variance was done to test for significant differences between means.

Results revealed the majority of women planned their pregnancy, decided to breast-feed prior to or very early in pregnancy, and actively sought information on breast-feeding. Sisters' and/or friends' practices and experiences with breast-feeding exerted a greater influence than health professionals' advice on the decision to breast-feed. Factor analysis on the indicators of success revealed three factors which accounted for 63.3% of the variance. These factors were labelled satisfaction, lactation, and maternal physiological response. One-way analysis of variance was performed on the different variables thought to be important to successful initiation of breast-feeding. Various aspects of the hospital environment were found to be statistically significant (α 0.05) in relation to satisfaction. There was also a statistically significant difference between the group of mothers who felt they were prepared for breast-feeding and those who felt unprepared. The prepared women had higher factor scores on satisfaction.

The findings from this study suggest that the immediate postpartum environment, including the nurses working in that setting, and the woman's preparation for breast-feeding were the most important variables to satisfaction of the woman initiating breast-feeding in the early postpartum period. However, the results of the study are descriptive and exploratory in nature and further research is recommended.

PREFACE

"I never know so many bottle-fed babies as there is now. Nearly all the young married women cannot give breast. How is it? Now, I think because they work so hard before, do not get enough rest, therefore have no milk. And then, some will not begin with their own milk, because they know they have to go out to work. Hence the baby has to suffer. Mother's milk is the best food for baby. I heard a young mother with her first baby say the other day her husband's mother had told her not to bother with her breasts, it made a young woman look old giving her baby breast. What a mother! I think it is one of the grandest sights to see. So you see we have a lot of educating to do when we hear such things as these." Anonymous (1915)

Note. From Maternity letters from working women edited by M. L. Davies. Great Britain: G. Bell & Sons Limited, 1915. In an attempt to improve maternal and infant care for the working class poor of Great Britain, Margaret Llewelyn Davies, a social reformer, solicited letters from members of the Women's Co-operative Guild in 1914. Davies requested the women to describe their personal experiences with childbirth and care so that she could have some insight into their experiences. The above is an excerpt from one of the letters that Davies received.

ACKNOWLEDGEMENTS

Many people have contributed to the success of this project and deserve recognition for doing so. I am especially grateful to Dr. Janet Kerr, my advisor, for her invaluable contributions. I also would like to thank the other members of my thesis committee, Dr. June Kikuchi and Dr. David Schiff for their suggestions and interest.

Members of the Faculty of Nursing at the University of Alberta, both past and present, have been very helpful. I especially thank Dr. Peggy Leatt who offered much assistance and encouragement in the difficult early stages. I am also appreciative of Dr. Shirley Stinson for her interest throughout my graduate studies. I would like to thank Dr. Peggy-Anne Field for her interest in and assistance with the subject.

I am indebted to Dr. C. B. Hazlett, Professor, Division of Health Service Administration, Faculty of Medicine, University of Alberta, who was not only helpful in this particular project, but throughout my entire graduate studies.

I wish to express deep appreciation to colleagues, friends, and past teachers at Memorial University of Newfoundland School of Nursing, especially M. D. McLean and P. Sen, who encouraged me to pursue graduate studies in nursing.

A sincere thank you to classmates Karran, Marianne, Sarah, and Sharon who contributed greatly to the enjoyment of my studies and were the major support and encouragement while I was doing this project.

Family, especially Carole and John, played an important role through their understanding. A very special thanks is due to Rob for his concern and assistance throughout all the stages of the study.

I wish to express appreciation and thanks to Miss Luna, postpartum nursing staff, and attending physicians at the Royal Alexandra Hospital for their excellent co-operation with data collection. However, the final acknowledgements are due to 40 mothers and their infants who willingly took part in the study and therefore made data collection not only possible but a very special experience.

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CHAPTER I

INTRODUCTION

There is increasing evidence in the literature to suggest breast-feeding has a variety of benefits for the mother-infant pair. Reviews of scientific studies on human milk indicate that breast-feeding is the optimum method of feeding a newborn infant from a nutritional, physiological, and immunological standpoint (American Academy of Pediatrics, 1978; Lawrence, 1980). Although present evidence is inconclusive, some authors (Jelliffe & Jelliffe, 1974, 1979; Newton, 1971; Taylor, 1977) suggest breast-feeding has psychological benefits for the mother-infant pair that are not provided by bottle-feeding.

Official medical societies have recognized the value of breast-feeding to the health of the newborn infant. Recently the American Academy of Pediatrics (1978) officially declared breast-feeding to be the best method of nourishing a newborn infant. During the International Year of the Child, 1979, the Canadian Pediatric Society endorsed the promotion of breast-feeding as its major effort. Through a joint effort with Health and Welfare Canada, the Canadian Pediatric Society compiled a resource kit for health professionals to further successful breast-feeding among Canadian mothers and their infants (Health and Welfare Canada, 1979). The Canadian Nurses Association passed a resolution to adopt this resource kit as a means of promoting lactation education among its members who are working with new mothers and infants (Resolutions, 1980).

The general public is also being made aware of the benefits of breast-feeding through articles printed in popular magazines and newspapers (Brody, 1979; Davidson, 1980). Readily available books written for parents as guides to successful breast-feeding include the benefits of breast-feeding for the mother and her baby (Gerard, 1970; Kitzinger, 1979; Pryor, 1973). The La Leche League International communicates the advantages of breast-feeding to the lay public through numerous pamphlets and books.

In spite of the known benefits of breast-feeding for the mother-infant pair, many infants are fed artificial milk. Available statistics for Canada indicate that in 1973 a total of 35% of the newborn infants discharged from hospital were being breast-fed and that this figure rose to 48% in 1976 (American Academy of Pediatrics, 1978, p. 596). More recent national statistics on the incidence of breast-feeding in Canada are unavailable but there is evidence to suggest the incidence of breast-feeding has increased in the Western world in general (Martinez & Nalezienski, 1979) and in some areas of Canada in particular (Landsberg, 1979).

A high failure rate is reported among breast-feeding mothers with some women failing to even establish lactation. The authors of a recent article on breast-feeding in a Canadian medical journal state "a high rate of failure in breast-feeding is currently a serious problem" (Editorial, 1978, p. 112). Commenting on human lactation, Cowie (1977) also cites failure as a current problem.

The problem of breast-feeding failure in our society has attracted interest from such disciplines as anthropology (Kitzinger, 1976; Raphael, 1976), psychology (Ladas, 1972; Newton, 1971), medicine (Applebaum, 1972; Bentovim, 1976; Waller, 1938) and nursing (Eppink, 1968; Evans, 1968; Hall, 1978) to cite a few example. The majority of studies examining success or failure in breast-feeding concentrate on the period after the mother and infant leave the hospital. The purpose of this study is to explore some of the possible factors contributing to success or failure of a new mother in initiating breast-feeding in the early postpartum period prior to discharge from the hospital.

Statement of the Problem

Although the etiology may be different, lactation failure and substitution of artificial formulas for breast milk are not only problems of recent times. Before the advent of the technology which enabled man to produce safe alternatives to human milk and breast-feeding, it was assumed that essentially all women breast-fed their infants. In his account of the history of infant feeding, Davidson (1953) points out the fallacy of this assumption. Throughout the centuries mothers have had some option in the method of feeding their infants. Evidence such as archeological findings of Greek infant-feeding bottles from the period around 500 B.C. (Lawrence, 1980), the variety of infant-feeding devices produced in England during the late eighteenth century (Handelsman, 1979), and the number and types of patents for infant-feeding bottles in the United States between 1841-1946 (Drake, 1948), attest to the option of artificial feeding methods for infants.

Breast-feeding incidence and duration have fluctuated over the centuries. In the twentieth century, early national surveys by Bain (1948) and a decade later by Meyer (1958) revealed the incidence of breast-feeding in the United States at time of discharge from the hospital to be approximately 38%. Similar figures on a national scale are not available for Canada. However, the results from two earlier regional surveys indicate approximately 68% of mothers were still breast-feeding their infants at age three months in a western city (Chown, 1928) while 79.9% were doing so in an eastern city (Chandler, 1929).

Historically, a difference in the socioeconomic classes between women who chose to breast-feed their infants and those who did not seemed always to be evident among women in western society. Among the seventeenth century English aristocracy "wet-nursing", or breast-feeding other than one's own offspring, was a common practice. McLaren (1978) who did an indepth study of fertility, infant mortality, and breast-feeding in the seventeenth century summarized, "a pattern was established that clearly indicated aristocratic and gentlewomen did not usually breast-feed, whilst yeomen and husbandmen's wives did, when they could" (p. 378). During the mid-nineteenth century the novelist, Trollope, drew attention to widespread lactation failure among the well-fed, upper socioeconomic class of English women (Jelliffe & Jelliffe, 1974). Almost a century later, referring to Canadian mothers, Chandler (1929) states, "it has always been the case that the well-to-do nurse less than those from the lower economic levels" (p. 670). Continuing into the early 1940's there was a greater tendency for mothers from lower socioeconomic classes to breast-feed their infants than mothers from higher socioeconomic classes. This trend was gradually reversed and by the 1960's a greater percentage of women from higher socioeconomic classes were breast-feeding (Salber & Feinleib, 1966). The trend for women of higher socioeconomic status to choose breast-feeding for their newborn infants more frequently than mothers of lower socioeconomic status has continued (Bacon & Wylie, 1976; Brimblecombe & Cullen, 1977; Boulton & Coote, 1979).

Different authors (Jelliffe & Jelliffe, 1979; Lawrence, 1980; Taylor, 1977) have reviewed the social issues associated with a decrease in breast-feeding around the mid-twentieth century. Increased technology resulting in the development and production of infant formulas and feeding devices, urbanization with the movement from extended to nuclear families, and the early women's movement which stressed emancipation of women from their traditional roles were some of the major factors thought to be responsible for the decrease in the incidence and duration of breast-feeding. These same factors would mitigate against successful breast-feeding for the mothers choosing to breast-feed their infants.

Changes in maternity practices within the health care delivery system have had an effect on breast-feeding practices, incidence and duration. The change of the birth place from the home to the hospital with a loss of social support, the creation of central nurseries which decreased mother-infant contact, rigid scheduling of infant feeding with emphasis on the measurement of the amount of milk the infant took, and the treatment of an uncomplicated delivery as a pathological process resulting in a delay in the initiation of breast-feeding were all factors that diminished the success rate in breast-feeding (Wertz & Wertz, 1979). Nurses working within and contributing to the above framework for maternity care put less emphasis on the kinds of intervention and support that would aid mothers to successfully begin to nurse their newborns.

Nursing education was influenced by the changes in maternity practices within the hospital setting. A survey of the sections pertaining to infant feeding in maternity nursing textbooks (Affonso & Clarke, 1976, 1979; Davis & Carmon, 1944; DeLee, 1934; Hamilton, 1971; Iorio, 1967, 1971; Pilliteri, 1976; Smith, 1964; Woodward & Gardner, 1944; Zabriskie & Eastman, 1943; Ziegel & Van Blarcom, 1972) reflects the influence of these changes toward breast-feeding. In the earliest of the textbooks surveyed (DeLee, 1934), the author states, "One could hardly believe a healthy mother would refuse to nurse her child, yet it is true now and has been for centuries. If a mother cannot breast-feed, a wet-nurse must be employed" (p. 515). There is no mention of artificial feeding. A decade later maternity nursing textbooks (Woodward & Gardner, 1944; Zabriskie & Eastman, 1943) contain material on artificial feeding for newborn infants. By the 1960's the authors include detailed sections in their textbooks on artificial feeding as "in reality the art of breast-feeding has been lost" (Smith, 1964, p. 184) and "more infants are artificially fed than breast-fed" (Fitzpatrick, Eastman & Reeder, 1966, p. 386). However, there are still sections for the nurse to refer to if she is caring for a breast-feeding mother. There seems to be a gradual change in maternity nursing textbooks in the 1970's toward more material on breast-feeding and how the nurse can facilitate successful breast-feeding (Affonso & Clarke, 1976, 1979; Lerch, 1974).

Three important movements peaking in the 1960's and 1970's were to have an effect on both maternity care and breast-feeding practice: the natural childbirth movement; feminist movement; and consumer movement in health care (Patterson & Peterson, 1980). A logical extension of a natural childbirth experience seemed to be breast-feeding so proponents of this method of childbirth advocated initiating breast-feeding within a few hours after birth. The adherents of the feminist movement aided the cause of a return to breast-feeding by protesting the exploitation of women as sexual objects and thereby helping to gain greater acceptance of the breast as an organ of nurturance. The female breast had become primarily a sexual object in western society (Small, 1979; Tylden, 1976; Wade, 1974). The effect on breast-feeding of viewing the breast as a sexual object is indicated by Waletzky (1979) who states, "crossculturally duration of breast-feeding is inversely related to the strength of the breast as a sexual object" (p. 350). The consumer movement in health care resulted in women beginning to demand conditions in hospitals that would promote successful breast-feeding or to look for alternative places of birth, i.e., home or birth-centers.

Parallel to the movements mentioned above, were specific movements started by lay-persons in different countries that would actively promote breast-feeding by giving both individual and group support to nursing mothers. Some examples of these movements are La Leche League International in the United States and Canada, the National Childbirth Trust in Great Britain, the Nursing Mothers' Association in Australia, and Ammenjhelp in Norway. Jelliffe and Jelliffe (1979) have identified recent scientific knowledge, naturalism, economic considerations, and international and national concern regarding infant feeding as some of the major social forces favouring a return to breast-feeding. It is expected that these forces will lead to an increase in the incidence and duration of breast-feeding.

But what about the individual mothers who choose to breast-feed their newborn infants? Is our culture, especially the hospital environment, still unsupportive for breast-feeding as Meara (1976) suggests? It is recognized that breast-feeding is a complex behaviour pattern involving both mother and infant. On the part of the mother an essential pre-condition to successful breast-feeding is the physiological process of milk production called lactation (Guyton, 1976, p. 1118; Hytten, 1976, p. 225). Although lactation is an essential pre-condition to enable a woman to nourish her infant, it is not the only factor in a successful breast-feeding experience. The "ejection" reflex, a neurohormonal reflex, which ejects milk from the mother's breast to make the milk available to the infant, is affected by both physical and psychological factors (Jelliffe & Jelliffe, 1974).

Lactation is the last phase of the reproductive cycle of all mammals, including man, so theoretically any woman should be able to breast-feed her infant. There is a common belief in our society that any woman can breast-feed if she wants to because breast-feeding is merely an instinctive activity. However, actual practice of women attempting to breast-feed their infants does not support the above theory or belief. Failure to establish or maintain lactation is a common reason why women do not breast-feed (Ladas, 1970). The failure may be real, i.e., the woman does not produce an adequate milk supply, or the failure may be perceived, i.e., the woman does not feel she is producing an adequate milk supply to meet her infant's nutritional needs.

Failure of a mother to establish breast-feeding is of considerable consequence because it leads a mother to choose an alternate, less beneficial, method of feeding (Bentovim, 1976), and it may have undesirable negative effects on the beginning mother-child relationship. Both of these consequences could be avoided or at least the impact lessened with appropriate intervention on the part of the nurse.

The purpose in this investigation was to study the relationship of some of the variables reported in correlational and observational studies in the literature that are supposed to have an effect on a mother's early breast-feeding experiences with her newborn infant. This study was designed as an exploration of some of the factors thought to facilitate success of a primiparous mother in initiating a satisfactory breast-feeding experience in the early postpartum period. The specific research objectives were as follows:

1. to describe primiparous mothers' experiences in initiating breast-feeding with their infants during the early postpartum period;
2. to describe the relationship between the breast-feeding experiences and the mothers' decision to breast-feed, their preparation for breast-feeding, their labour and delivery experiences, and their initial contact and breast-feeding experiences with their infants;
3. to explore the extent to which mothers of different ages, occupational groups and educational backgrounds have different experiences initiating breast-feeding;

4. to explore the extent to which the hospital environment including the knowledge and support of the nursing staff may be associated with success of the mothers in initiating breast-feeding.

The Need for the Study

The primary need for this investigation stems from the nurse's unique position in the health care delivery system for the promotion of successful breast-feeding (Auerbach, 1979). Within the acute care setting during the early postpartum period, the need for the nurse to foster conditions that lead to successful initiation of breast-feeding between a mother and her newborn infant is well recognized by pediatric societies (American Academy of Pediatrics, 1978; Recommendations for action programs, 1976), and concerned groups such as the La Leche League International (LLL) (Countryman, LLL pamphlet #118). The members of the Committee on Nutrition of the American Academy of Pediatrics (1978) recommend:

> Attitudes and practices in . . . maternity wards should encourage a climate which favours breast-feeding. The staff should include nurses and other personnel who are not only favourably disposed toward breast-feeding but also knowledgeable and skilled in the art. (p. 578)

To enhance the nurse's position in delivering postpartum care to the mother-infant pair, the nurse needs to have some knowledge about factors relating to success or failure in the mother's ability to initiate breast-feeding in the early postpartum period. The knowledge of these factors could result in an improvement in the anticipatory guidance given to a new mother regarding breast-feeding. A second benefit resulting from the knowledge gained in this study could be improved nursing intervention on behalf of the mother and her infant during the initiation of breast-feeding. In reference to clinical nursing research, Rubin and Erickson (1978) aptly point out, "The purpose of clinical nursing research is to define the precise situation of the patient in order to address nursing care effectively and economically on behalf of the patient" (p. 131).

The secondary purpose for performing this study stems from a more global concern. Mothers in developing countries are being affected by infant feeding practices of mothers in developed countries (Bader, 1976; Hofvander & Petros-Barvazian, 1978; Jelliffe & Jelliffe, 1975, 1977b; Wade, 1974). The physiological protective functions inherent in human milk are more important to infants in the developing countries because many mothers in these countries do not have the degree of literacy, uncontaminated environments for preparation and storage of milk, or sufficient money to purchase enough formula to make artificial feeding a safe means of feeding their infants (Jelliffe & Jelliffe, 1979, p. 270). The World Health Organization initiated a collaborative study on breast-feeding in nine different countries (Hofvander & Petros-Barvazian, 1978). The aim of the study was to achieve a better understanding of what factors influence breast-feeding practices in various settings. With this understanding the appropriate intervention to encourage the incidence and duration of breast-feeding could be initiated in the different settings. It is hoped through this approach to have a world-wide effect and to globally improve infant nutrition with a resulting decrease in infant mortality and morbidity.

Rosenblum (1980) urges nurses to become involved as a profession on local, national and international levels in matters of world concern:

> The nurse as educator, practitioner, and citizen must examine his or her own set of values and beliefs about humanity in a world of dwindling resources and other complexities that stagger even the most innovative problem solvers. (p. 3)

At the Biennial meeting of the Canadian Nurses Association held in Vancouver, British Columbia in June 1980, a resolution was passed to boycott the products of a large international company because of questionable techniques used by this particular company in promoting and selling artificial milk products to mothers for their newborns in the underdeveloped countries (Resolutions, 1980). This is just one example of how members of the nursing profession can take an action to deal with a problem that has serious consequences for a large segment of the world population.

Conceptual Framework

The conceptual framework for this investigation was based on a general systems approach. A system is defined by Diasio (1979) as, "A whole consisting of interrelated independent parts with a goal orientation--that is coordinated to achieve a set of objectives" (p. 31). As Hazzard (1971) indicates, the utility of a systems model is that it provides for the integration of independent parts to provide a framework for analysis of a problem or behaviour. Finch (1969) mentions the utility of a systems approach to professional nursing care in that this approach allows complex problems to be studied. Similarily Chin (1979) feels systems models have utility for nursing practice. Two nursing theorists, Johnson (Auger, 1976) and Rogers (1970), have used a systems approach to construct conceptual models for nursing practice.

Bentovim (1976), a psychiatrist, applied a general systems framework to construct a model aiming to explain the complexity of factors influencing the choice and continuation of breast-feeding. This model was based on an array of psychological and sociocultural factors, identified through a search of pertinent literature, and reported to have an influence on the outcome of breast-feeding success. Bentovim took a strong psychoanalytic approach to the examination of success or failure in breast-feeding.

In order to construct the conceptual model for this investigation a review of pertinent literature was made with an emphasis on nursing literature. This literature review will be included in the following chapter. Bentovim's model was modified accordingly to place less emphasis on psychological and sociological factors and more emphasis on the woman's experiences during labour and delivery, interactions with her infant, and postpartum hospitalization.

The conceptual model used in this investigation of factors influencing successful initiation of breast-feeding in the early postpartum period is presented in Figure 1.

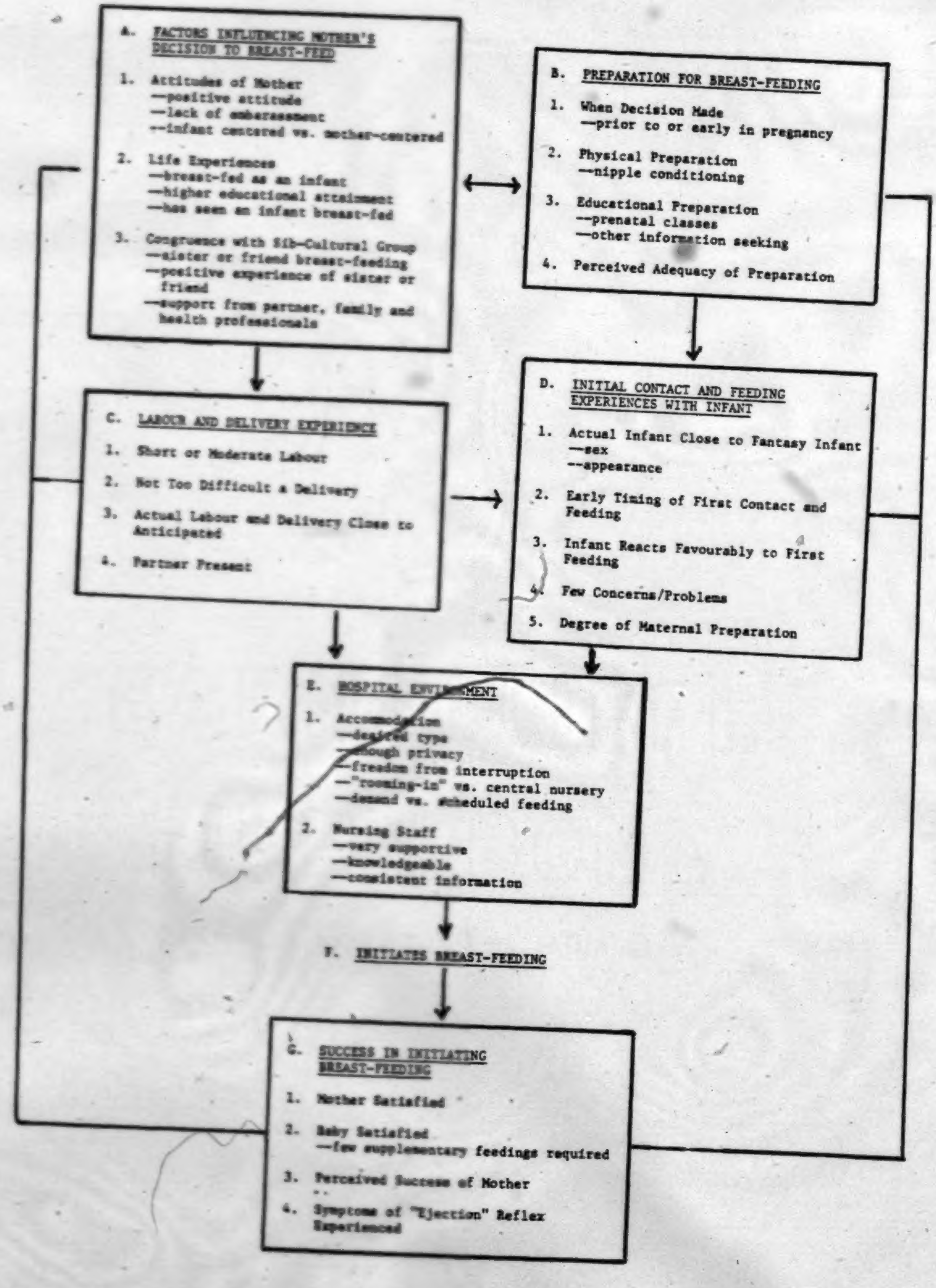
A. FACTORS INFLUENCING MOTHER'S DECISION TO BREAST-FEED
1. Attitudes of Mother
—positive attitude
—lack of embarassment
--infant centered vs. mother-centered
2. Life Experiences
—breast-fed as an infant
—higher educational attainment
—has seen an infant breast-fed
3. Congruence with Sib-Cultural Group
—sister or friend breast-feeding
—positive experience of sister or friend
—support from partner, family and health professionals
B. PREPARATION FOR BREAST-FEEDING
1. When Decision Made
—prior to or early in pregnancy
2. Physical Preparation
—nipple conditioning
3. Educational Preparation
—prenatal classes
—other information seeking
4. Perceived Adequacy of Preparation
C. LABOUR AND DELIVERY EXPERIENCE
1. Short or Moderate Labour
2. Not Too Difficult a Delivery
3. Actual Labour and Delivery Close to Anticipated
4. Partner Present
D. INITIAL CONTACT AND FEEDING EXPERIENCES WITH INFANT
1. Actual Infant Close to Fantasy Infant
—sex
--appearance
2. Early Timing of First Contact and Feeding
3. Infant Reacts Favourably to First Feeding
4. Few Concerns/Problems
5. Degree of Maternal Preparation
E. HOSPITAL ENVIRONMENT
1. Accommodation
—desired type
—enough privacy
—freedom from interruption
—"rooming-in" vs. central nursery
—demand vs. scheduled feeding
2. Nursing Staff
—very supportive
—knowledgeable
—consistent information
F. INITIATES BREAST-FEEDING
G. SUCCESS IN INITIATING BREAST-FEEDING
1. Mother Satisfied
2. Baby Satisfied
--few supplementary feedings required
3. Perceived Success of Mother
4. Symptoms of "Ejection" Reflex Experienced

Figure 1: Conceptual Model; factors influencing successful initiation of breast-feeding

CHAPTER II

REVIEW OF THE LITERATURE

The purpose in this section is to identify and examine factors associated with successful breast-feeding in the human mother. This will be accomplished through a critical review of the literature, especially nursing literature, with an emphasis where possible on empirical studies. The major areas of the literature to be examined are as follows: factors influencing a mother's decision to breast-feed; preparation for breast-feeding; labour and delivery experiences; initial contact and feeding experiences with the newborn infant; and the postpartum hospital environment.

Influences on a Mother's Decision to Breast-Feed

A woman chooses to breast-feed her infant for a variety of reasons and no one factor alone may explain this choice. Numerous studies (Allen & Heywood, 1979; Bacon & Wylie, 1976; Boulton & Coote, 1979; Brimblecombe & Cullen, 1977; Brown, Zieberman, Winston & Pleshette, 1960; Cole, 1977; Coles, Cotter, & Valman, 1978; Eastman, Smith, Poole, & Neligan, 1976; Kevany, Taylor, Kaliszer, Humphries, Torpey, Conway, & Goldsmith, 1975; Salber & Feinleib, 1966) have been conducted using questionnaires and interviews to determine what factors are associated with the choice of breast-feeding as a method of infant feeding. Frequently these associated factors are correlated with the duration of breast-feeding. As the duration of breast-feeding is often used as an index of breast-feeding success, factors that correlate positively with a longer duration of breast-feeding are often used as factors associated with successful breast-feeding.

Although it is recognized by the author that there is an integration and interrelationship among all the factors influencing a woman to breast-feed her infant, for the purpose of clarity the associated factors will be subdivided into three main categories: sociological, cultural, and psychological factors.

Sociological Factors

Age, parity, educational level, socioeconomic status, marital status and housing are some of the sociological influençes that affect whether a woman will breast-feed her infant. Concerned with a 45% decrease in breast-feeding over a single generation in Ireland, Kevany and his associates (1975) surveyed 198 women who had recently delivered a live infant to determine the association of selected demographic and social factors with choice of infant feeding methods. Factors positively associated with the choice of breast-feeding were higher social class as measured by the husband's occupation, higher educational level of the mother, and the previous experience of having successfully breast-fed an infant. In two similar studies from Great Britain, Bacon and Wylie (1976) surveyed 200 new mothers and Brimblecombe and Cullen (1977) surveyed 500 and 539 new mothers in two separate surveys. Their findings supported those of Kevany and his associates (1975).

Sjölin, Hafvander, and Hillervik (1977) interviewed 298 Swedish mothers who were successfully breast-feeding at eight weeks postpartum. They reported that these successful nursing mothers tended to be from social class I, have a high educational status, be over 25 years of age, and live within a stable relationship. Marital status, as a sociological factor, has not been investigated specifically; in fact most studies control for marital status by interviewing only married women. However, Sorensen, Hilden, and Sorensen (1978) reported from a study they performed in Sweden that infants born outside of marriage were being breast-fed longer than those infants born within a marriage.

In the United States Cole (1977) found from her survey of 338 pregnant women that there was a positive correlation between a higher educational status and a desire to breast-feed. Similarly in Australia Boulton and Coote (1977) reported they found a positive relationship between a higher educational level in the mothers and their choice of breast-feeding for their infants from among 500 women surveyed.

Parity, or the number of previous viable infants the woman has produced, seems to be related to both choice of and success in breast-feeding. Primigravida women are more likely to choose breast-feeding than multigravida women (Martinez & Nalezienski, 1979; Norr, Block, Charles & Meyering, 1980). However, multiparous women are more likely to be successful breast-feeders than primiparous women. The latter trend partly reflects the physiological benefit of the cumulative effect of previous pregnancy and lactation on the breast and nipple development (Hytten, 1976, p. 227). It undoubtedly also reflects the social learning that accompanied the first breast-feeding experience (Thoman, Turner, Leiderman, & Barnett, 1970; Thoman, Leiderman & Olsen, 1972).

Cultural Factors

Breast-feeding, like other behaviours, occurs within a cultural context. Therefore, core beliefs of the woman's culture, if internalized by the woman, will have an influence on her breast-feeding practices (Kitzinger, 1979; Raphael, 1976; Ragheb & Smith, 1979) and on her choice of breast-feeding as a method of infant feeding (Jones & Belsey, 1977).

Congruence with one's sib-cultural groups seems to be an important factor influencing a woman's choice of a method of infant feeding. If members of one's intragenerational group, or one's sib-cultural group as Bentovim (1976) describes this group, have breast-fed successfully a woman is more likely to choose to breast-feed. Jones and Belsey (1977) surveyed 265 women in order to examine the relationship between selected cultural factors and the mother's choice of how she will feed her newborn infant. They reported a strong correlation between the method of infant feeding chosen and the experience of the woman's friends with breast-feeding. If a woman had friends who breast-fed successfully she was more likely to choose breast-feeding for her infant, but if her friends had problems with breast-feeding she was more likely to choose bottle-feeding. Not surprising, this effect was more marked in primiparous women who did not have their own previous experiences to draw upon, than in multiparous women.

Kevany and his associates (1975) also studied the effects of sib-cultural group influences on breast-feeding by examining the relationship between source of advice about breast-feeding in the prenatal period and compliance with breast-feeding practice in the postpartum period. According to their investigation they found the greatest compliance rate occurred when the source of advice was from sisters, friends, and husbands, in that order.

Intergenerational influences on the woman's decision to breast-feed are also evident. Several investigations (Bacon & Wylie, 1976; Eastman et al., 1976; Kevany et al., 1976) show that a woman is more likely to breast-feed her own infant if she herself had been breast-fed as an infant than if she were bottle-fed. Perhaps here the quality of her mothering is a more important factor than how she was fed. Apart from how a woman was fed as an infant, her mother or even mother-in-law may influence her decision to breast-feed by supporting the woman's decision to breast-feed.

Support for a woman's decision to breast-feed from her family, especially her partner, seems to be important to her choice of breast-feeding as the method of feeding her infant. The influence of the family on success or failure in breast-feeding is succinctly expressed by Newman (1976) who states, "every woman has an existing bias (regarding breast-feeding) passed on by her mother, relatives or friends" (p. 245). This bias, depending on its direction, will help or hinder the woman beginning to breast-feed.

Another cultural influence on breast-feeding decision and success is a woman's visual familiarity with an infant being nursed at his mother's breast. If a woman grows up in a culture where breast-feeding is an open and accepted practice, it is easier for the woman to breast-feed. Unfortunately in Western society where there is such a strong taboo against exposing the breasts in public that a woman may even be banned from a public place for breast-feeding (Montagu, 1978, p. 61), many women grow up without an opportunity to observe a mother nursing her infant. Of the 40 nursing mothers Hall (1978) interviewed, 30% of them had never seen a woman breast-feed a baby. Tylden (1976), a psychiatrist, speculates on the possible outcome of unfamiliarity with the sight of a nursing mother, "The mother who has never seen a baby breast-fed has more difficulty in learning to breast-feed than does a mother who comes from a family with a tradition of breast-feeding" (p. 240).

The medical system, or perhaps the broader health care system, is part of an individual's cultural system. As such, it has some effect on a woman's decision to breast-feed. However, the influences of health professionals does not seem to be too strong as evidenced by studies performed by Brimblecombe and Cullen (1977) and Jones and Belsey (1977). In both of these studies health professionals, i.e., doctors and nurses, are reported as having the least influence of any of the influences examined on a woman's choice to breast-feed. A study from the University of Rochester (Lawrence, 1980, p. 109) showed interesting results. There was a positive correlation between how the physician's child was fed and the advice the physician gave to a client regarding infant feeding method. This perhaps indicates that the physician's cultural values and practices were greater influences than his medical knowledge when he was discussing infant feeding methods with a client. The fact that health professionals have little influence on a mother's decision to breast-feed is not surprising when one examines the timing of the mother's decision. In three surveys (Disbrow, 1963; Eastman et al., 1976; Jones & Belsey, 1977) 45%, 54% and 51% of the subjects had made their decision to breast-feed prior to pregnancy. Therefore, in many cases the decision to breast-feed has been made prior to contact with a member of the health professions.

Psychological Factors

Although psychological factors are more difficult to identify, measure, or verify, they are known to have an effect on a woman's decision to breast-feed and success or failure of breast-feeding. One approach to studying psychological variables is to examine women's attitudes toward breast-feeding and correlate these attitudes with her decision to breast-feed and rate of success.

Newton (1955) in her study of maternal emotions found that positive attitudes of the women studied towards sexuality, satisfaction with her biological role in life, pregnancy, and motherhood are associated with choice of and success in breast-feeding. In an exploratory study, Newton and Newton (1950a, 1967) investigated how 91 mothers' attitudes toward breast-feeding were related to the course of lactation in the immediate postpartum period. Attitudes expressed by the women in the study were sorted by two independent judges into three attitude categories: positive, doubtful, and negative. Of those subjects in the positive attitude category, 74% were successful with breast-feeding compared with 35% in the doubtful and 25% in the negative attitude category. The attitudes of a woman's partner toward breast-feeding also seem to be an important predictor of choosing breast-feeding (Lerner, 1979). Riordan and Rapp (1980) conclude that breast-feeding is a sexually pleasurable process but women with negative attitudes toward sexuality tend to have problems with breast-feeding.

Newton (1971) did a review of the literature on the psychological differences between breast and bottle feeding. Based on this review she concluded that the two methods are not psychologically equivalent. The interaction between bottle-feeding mothers and breast-feeding mothers with their infants differ as do their opinions of what is important during the feeding process (Crow, 1977). Women who practice the two different methods of infant feeding also seem to differ psychologically. Chamberlain (1976) did a study of the personality differences between 30 breast-feeding mothers and 30 bottle-feeding mothers. His conclusions suggest breast-feeding mothers are more secure in their mothering role than their bottle-feeding counterparts.

The degree of reported embarrassment on the part of the nursing mother can give us an indirect measure of the woman's attitudes towards breast-feeding. A study by Jones and Belsey (1977) of the feelings of embarrassment regarding breast-feeding revealed the majority of women who chose to bottle-feed their infants were embarrassed about the thought of breast-feeding, particularly in public. The degree of embarrassment also varied among nursing mothers; 10.4% were embarrassed to breast-feed in front of close family, while 68.9% were embarrassed to breast-feed in public or in front of male acquaintances.

The woman's main or primary reason for choosing either bottle or breast-feeding reveals something of her attitudes. Four studies (Adams, 1959; Allen & Heywood, 1979; Eastham et al., 1976; Kevany et al., 1975) more frequently report that the choice of breast-feeding was associated with infant-centered reasons, e.g., it's good for the baby, and the choice of bottle feeding was associated with mother-centered reasons, e.g., it's more convenient for the mother.

Preparation for Breast-Feeding

During pregnancy a woman seeks information regarding different aspects of pregnancy in order to assure a successful outcome (Kimbrough, 1977). Through her information seeking she is able to prepare herself to some degree for the changes during pregnancy, the birth process, and child care after delivery. How a woman prepares for breast-feeding is also important for a successful outcome. Two main types of preparation will be examined: physical and educational.

Physical Preparation

Physical preparation refers to actions taken by the woman to prepare her nipples and/or breasts for the suckling infant. There is a great deal of conflicting advice given in the literature about methods of preparing the nipples and whether or not there are any beneficial results from physical preparation. In one study, Atkinson (1979), a nurse, investigated whether prenatal nipple conditioning had an effect on nipple soreness caused by breast-feeding during the first few days postpartum. Seventeen primigravida women served as their own controls by preparing the left nipple according to a set routine, but not preparing the right nipple. This preparation was performed for six weeks prior to delivery. Findings from the investigation revealed that nipple preparation reduced the amount of severe pain experienced by the woman on the prepared nipple compared with the unprepared nipple. The results of the study, although inconclusive because of the limited number in each category, also suggested fair-skinned women were more susceptible to nipple pain than darker-skinned women.

Nipple problems in the postpartum period seem to be prevalent among nursing mothers. Countryman (1973) states, "The most frequent reasons given by mothers for early discontinuance of breast-feeding are breast and nipple problems accompanied by pain and discouragement" (p. 36). Surveys questioning women on why they have discontinued breast-feeding early in the postpartum period bear out Countryman's statement. In four studies (Bacon & Wylie, 1976; Brimblecombe & Cullen, 1977; Eastham et al., 1976; Cole, 1977) the second most common reason given by a mother for discontinuing nursing was sore nipples. Different authors (Dutton, 1979; Farebrother, 1976; Illingworth, 1949; Waller, 1938) to cite a few, mention the importance of breast and nipple preparation to prevent problems, such as sore nipples, and to increase the success rate of breast-feeding.

Applebaum (1970) recognizes part of the success in breast-feeding is due to protactility of the mother's nipples which is maximized through nipple-rolling exercises. Gunther (Newton & Newton, 1967, p. 1180) performed a study examining the relationship between nipple protactility and success in breast-feeding. Her results indicate greater protactility (2.5 cm) was positively correlated with successful breast-feeding. Whether nipple and breast preparation does indeed prevent problems needs to be investigated further. However, it is felt that physical preparation contributes to the psychological as well as the physiological preparation of the woman. In Western society where the breast has become a sexual object it is possible that the woman may need to become comfortable handling her breasts before she can nurse her infant.

Educational Preparation

Educational preparation of the woman for breast-feeding is felt to be essential to a successful outcome (Silverman & Morrow, 1976). Information seeking on the part of the mother may be through formal or informal channels. Prenatal classes, preparatory classes by the La Leche League, printed materials, audio-visual presentations, advertising, and information from family, friends, and health professionals constitute the main sources of formal and informal educational preparation.

Ladas (1972), in a survey of women affiliated with the La Leche League, to determine how information presented by the La Leche League affected the woman's behaviour, identified the following main factors: correctness and usefulness of the information, congruence of the information with the woman's beliefs, commitment of the woman to the point of view being presented, and trust in the source of information.

Norr et al. (1980) reported that primiparous women who had attended prenatal classes were less likely to report difficulties with breast-feeding than women who did not attend prenatal classes. The content of the classes relating to breast-feeding was not reported in the study. A nursing study performed by Evans, Thigpen, and Hamrick (1969) to examine the difference in the discomforts experienced by successful and unsuccessful breast-feeding mothers found little difference in the number of discomforts both groups experienced. However, they did find that successful nursing mothers experienced more expected discomforts while unsuccessful mothers had more unexpected discomforts. The above results indicate that educational preparation in the prenatal period prepares a woman for what difficulties she may expect with breast-feeding and therefore she can deal with them more effectively.

Eastham and his associates (1976) assessed the technical knowledge of 63 primiparas regarding breast-feeding. According to the woman's score on a test she was classified as belonging to one of three groups: well-informed, intermediate, or uninformed. Women who scored highest, i.e., those in the well-informed group, were more successful in breast-feeding than women in the other two groups.

A retrospective study by Whitley (1978) of 34 breast-feeding mothers examined the association between attendance at preparatory breast-feeding classes and success with breast-feeding. Duration of breast-feeding was taken as a measure of success and was correlated with class attendance. Women were divided into long-term feeders, i.e., those breast-feeding 24 weeks or longer, intermediate-term feeders, i.e., those feeding between six weeks and 24 weeks, and short-term feeders, i.e., those feeding less than six weeks. Long-term feeders attended more classes and read more material on breast-feeding than the other two groups.

Ladas (1970) selected 756 La Leche League members who indicated on an initial survey that they had been forced to discontinue breast-feeding before they would have liked to discontinue, and resurveyed these women. She found that lack of information was related to all the reasons the women gave for their early discontinuation of breast-feeding.

The partner's educational preparation on breast-feeding has been shown to be positively correlated to duration of breast-feeding in at least one study (de Château, Holmberg, Jakobson, & Winberg, 1977). A group of 20 mothers and 13 fathers were given additional information about breast-feeding and results showed the total duration of breast-feeding was considerably longer in the group where the fathers participated. Research into educational preparation of the woman for breast-feeding suggests women are not being adequately prepared and that such preparation contributes to the success of breast-feeding.

Labour and Delivery Experiences

Giving birth is a complex process which provides a woman with a variety of physical sensations and emotions. For a primigravida, lack of familiarity with hospital environment and with medical and nursing practice will influence how the woman views her labour and delivery. What effect, if any, will this have on breast-feeding? Research on the association between factors relating to labour and delivery experiences and success or failure in breast-feeding is very scarce. Newton (1950) in her study on maternal emotions discovered that primiparous women who had longer labours tended to have more negative feelings about breast-feeding. Similarly, Jackson, Wilkin and Auerbach (1956) found that there was a positive correlation between difficulty of labour and lack of success in breast-feeding.

Norr, Block, Charles, Meyering and Meyers (1977) interviewed 249 recently delivered women to investigate what factors contributed to pain and enjoyment during childbirth. Two factors they discovered from their study that significantly contributed to the women's enjoyment of childbirth were preparation and social support during labour. Medical factors such as length of labour, complications and difficulty of delivery had relatively little impact on either pain or enjoyment in childbirth. It would be of value to see if improving the woman's birth experience "by increasing availability of preparation classes and encouraging greater support from relatives during birth" (Norr et al., 1977, p. 260) would have any effect on the outcome of breast-feeding.

Effects of drugs used during labour and delivery for analgesic and anesthetic purposes last into the postpartum period. These effects may delay breast-feeding because either the mother, the infant, or both the mother and infant are too affected by the drug to successfully initiate breast-feeding until the effects of the drug have decreased. Poor sucking in the infant is sometimes the result of medication during labour.

The type of delivery a woman experiences does influence how she feels postdelivery. A woman who has had a Caesarian section or a large episiotomy with or without forceps delivery will find it more difficult to move about after delivery and to handle her baby for breast-feeding. The woman who has had an unexpected Caesarian section may have to deal with additional psychological problems. She may feel she has failed because she was unable to deliver her infant vaginally--the 'normal way'. In addition, women who have complicated labours or deliveries frequently have breast-feeding delayed because of the necessity to observe the infant closely for at least 24 hours after birth.

Initial Contact and Feeding

Two events in the early postpartum period have an effect on breast-feeding success; the mother's first contact with and the initial breast-feeding of her newborn infant. Different investigators (de

Château et al., 1977; Johnson, 1976; Sousa, Kennell, Klaus, & Urrutia, 1976) have studied the relationship between early contact and/or early initiation of breast-feeding and breast-feeding success.

Johnson (1976) studied the effects of early initiation of breast-feeding on breast-feeding success. Breast-feeding success was measured by duration of breast-feeding. In her quasi-experimental study, a group of 12 primiparous women were divided randomly into two equal groups. The experimental group consisted of mothers who breast-fed their infants within the first hour of birth and the control group breast-fed their infants according to hospital routine--sixteen hours after birth. A follow-up of the subjects at two months revealed that five of the six mothers in the experimental group were still breast-feeding compared with only one mother from the control group. Other important findings were reported from Johnson's study. All the women in the experimental group, including the woman who discontinued breast-feeding, made more positive statements and expressed greater satisfaction with their initial breast-feeding experience than the women in the control group. It is difficult to speculate about a strong relationship because of the small number of subjects in each sample, but it does suggest early initiation of breast-feeding may also have a positive effect on maternal-infant bonding.

Sousa and associates (1976; Klaus & Kennell, 1976, p. 60) report on three studies they performed to examine the relationship between early skin-to-skin contact of the mother and her infant on maternal-infant bonding. They also measured duration of breast-feeding of the subjects in the three studies. In each study an experimental group received early skin-to-skin contact and a control group were separated from their infants for a 12 hour period. In two of the three studies the infants in the experimental group were breast-fed significantly longer than infants in the control group.

In Sweden, de Château and his associates (1977) studied the effect of both early skin-to-skin and sucking contact on breast-feeding success in 21 mother-infant pairs compared with 20 control pairs who were separated according to hospital routine. The infants in the experimental group were breast-fed longer than the infants in the control group suggesting there was a relationship between early contact and breast-feeding success.

The timing of the first breast-feeding episode is still a controversial issue. There seems to be a wide discrepancy in the literature regarding the optimal time to initiate breast-feeding. In maternity nursing textbooks there is a variety of recommended times ranging from immediately after birth to 12 or more hours after birth. Studies have been done on infant-state in the first few hours after birth. Lozoff, Brittenham, Trause, Kennell and Klaus (1977) report that the infant is, "in a heightened state of alertness and responsivity . . . is wide-eyed, readily able to follow visually, responsive to the human face and voice, and eager to suckle" (p. 8). From the point of view of the infant's state it seems an ideal time to initiate breast-feeding.

However, in many hospitals the policy indicates that the first feeding be either sterile water or glucose and water. The rationale behind this policy is to use this first feeding as a screening process for physical problems in the infant in order to rule out swallowing difficulties. This policy is reinforced by the revised edition of the Canadian manual for maternal-infant care (Health and Welfare Canada, 1973, p. 65) which recommends an initial feeding of sterile water before either breast or bottle feeding is commenced.

Members of La Leche League hold as a central belief that breast-feeding should be initiated immediately after the infant's birth (Knafl, 1976). This belief is often a source of conflict between members of La Leche League and hospital personnel. Knafl (1974) interviewed 19 obstetrical nurses about their attitudes towards women breast-feeding on the delivery table. Only one nurse favoured this practice; the others disapproved of the practice for two "practical" reasons, "the numerous tasks nurses had to complete immediately after delivery and their concern for the well being of the newborn" (p. 1849). While this sample was hardly representative of obstetrical nurses, it does show how some nurses view early breast-feeding.

The proponents of early initiation of breast-feeding seem to be increasing in number. From reviewing the recent literature a strong case may be made in their favour. Vorherr (1978, p. 230) advocates putting the infant to the breast in the first few hours postpartum in order to stimulate prolactin and oxytocin secretion which is necessary for lactation to begin. Other benefits to both the mother and infant are to be gained by early breast-feeding contact. The mother benefits from the secretion of oxytocin, which stimulates her uterus to contract (Sousa et al., 1976, p. 186) resulting in decreased postpartum bleeding. The infant receives colostrum, the forerunner of breast milk, providing the infant with immunological benefits (American Academy of Pediatrics, 1978, p. 594; Lawrence, 1980, p. 74). As discussed previously early breast-feeding may also have the psychological benefit of enhancing maternal-infant attachment.

Research has been conducted by Eppink (1968) to study the differences between early and late initiation of breast-feeding. An experimental group of 30 newborn infants, with no previous bottle-feeding experiences, were breast-fed within the first eight hours after birth. These infants were compared with a control group of 30 infants with previous bottle feeding experiences, who began breast-feeding 24 or more hours after birth. A statistical analysis of the time interval it took the infants to begin breast-feeding showed it took significantly less time for the infants in the early feeding group to begin breast-feeding compared with the infants in the late feeding group.

More recently Salariya, Easton, and Cater (1978) examined the relationship of two variables, early initiation and frequent breast-feeding episodes on the duration of breast-feeding in 111 primiparous women. From their 18 month follow-up of the subjects they determined both variables were related to breast-feeding success. Early initiation, i.e., breast-feeding within 10 minutes of delivery, had the greater effect, but frequent feedings of every two hours also increased the duration of breast-feeding. The women who breast-fed at two hourly intervals were able to induce lactation at least 24 hours earlier than did the women who were on a four hourly breast-feeding schedule.

Sex of the newborn infant also seems to be related to breast-feeding duration. Kevany and his associates (1975) in Ireland found mothers of male infants were more likely to choose breast-feeding. Similarly in Sweden, de Château and associates (1977) found mothers of male infants breast-fed their infants longer. This could be a cultural effect or could be due to the woman wanting a male infant at this point and therefore breast-feeding him longer.

How the infant reacts to the first feeding, or rather how the mother interprets this reaction, has a bearing on success in breast-feeding. Gunther (1976) who has spent years studying and helping women breast-feed states, "Success or lack of success in the early giving of the breast is probably the strongest influence in the reinforcing or abandoning of breast-feeding" (p. 149). Tylden (1976, p. 242) shares this view. If the infant does not take the mother's breast when it is first offered it may be consciously or unconsciously thought of by the mother as rejection on the part of the infant (Newton, 1971). The quality of the very first breast-feeding experience seems to be as important as the timing.

Hospital Environment

The postpartum hospital environment has been criticized as being incompatible with conditions that would foster successful breast-feeding. Lozoff and associates (1977) reviewing the effects of hospital practices on breast-feeding conclude:

> breast-feeding may be impaired by. . . hospital routines which use intrapartum medication, delay nursing, separate mothers and infants, provide supplementary bottles, enforce four-hour feeding

> schedules, weigh babies before and after nursing, exclude fathers, and give little support to the breast-feeding mother. (p. 5)

Policies of the hospital regulating newborn care and characteristics such as knowledge and support of the nursing staff toward breast-feeding are two factors in the hospital environment which have an influence on the mother's breast-feeding experience.

Three main policies governing newborn care that are felt to be detrimental to establishing a satisfactory breast-feeding experience between a mother and her newborn infant are separate accommodation for mother and infant, a four hourly feeding schedule, and routine supplementary formula for infants. Wertz and Wertz (1979, p. 132) in their history of childbirth in America examine the development of the movement from home to hospital for the birth of an infant. They felt "the hospital environment itself had contributed materially to defining birth as a dangerous event" (p. 138). Because of the danger of infection, heavy use of medication during labour and delivery, and overuse of medical intervention during the birth process, central nurseries became necessary. Here the infant was looked after while both mother and infant 'recovered'.

Observations of separation of mother and infant led to the feeling that this was detrimental to establishing breast-feeding (Illingworth, 1949, p. 1077) and the concept of rooming-in was operationalized to remedy this situation. Rooming-in is described by Greenberg, Rosenberg, and Lind as, "a special hospital environment where the newborn infant is placed in a bassinet at the bedside of the mother, who is encouraged to take up the care of her own infant as soon as she is able" (p. 785). From a biochemical perspective continuous contact of the mother and infant makes sense. Studies on the specific biochemical compositions of different mammalian milk defines man as a continuous contact species (Jelliffe & Jelliffe, 1975, p. 557).

Although rooming-in is advocated as a positive influence on breast-feeding success, few studies have examined the relationship between these two factors. Over a three year period, Jackson and his associates (1956) compared the duration of breast-feeding of women who had their infants rooming-in and women who had their infants cared for in the central nursery. Women in the rooming-in group less frequently discontinued breast-feeding in the hospital. Follow-up also showed that the rooming-in group breast-fed their infants for a longer duration. Greenberg and his associates (1973) examining the effects of rooming-in on the mother report there was no difference in the number of problems with breast-feeding reported by rooming-in versus central nursery-housed infants. They made no attempt to examine success or failure in breast-feeding between the two groups.

Closely associated with the practice of rooming-in is the practice of demand feeding. With demand feeding the mother-infant pair regulate the number of and duration between feeding episodes. However, many hospitals, especially where the infant is kept in the central nursery, have a routine feeding schedule which has the majority of infants going to their mothers on four hourly intervals.

There is a physiological basis for frequent breast-feeding episodes in order to stimulate lactation. Production of prolactin, a hormone regulating milk secretion (Cowie, 1977, p. 571; Vorherr, 1978, p. 230), is stimulated by the suckling of the infant. If the infant is put to the breast infrequently, especially in the early postpartum period, lactation is delayed (Salariya et al., 1978).

A criticism made against demand feeding is that it would be very difficult for ward management unless babies were rooming-in with their mothers. Cruse, Yudkin and Baum (1978) studied an experimental group of 43 maternal-infant pairs breast-feeding on demand compared with 42 mother-infant pairs feeding on schedule. The demand feeding caused no disruption in ward routine and the nurses exposed to the practice were in favour of it. In the study Cole (1977) performed on 151 women to determine the effects of postpartum hospitalization on breast-feeding success, she concluded that rooming-in contributed to breast-feeding success as measured by the length of time the woman breast-fed. Although she felt demand feeding also contributed to this success she did not have the data to test this hypothesis.

The third hospital policy felt to have an adverse effect on initiating breast-feeding is the use of supplementary feedings. There is a difference between the sucking response of the infant to a bottle and to the breast (Applebaum, 1970, p. 216; Lawrence, 1980, p. 118), thus offering both to the infant only serves to confuse the infant. A second practical reason for not offering an infant a formula feeding is that if he receives nourishment from a bottle it takes away the stimulus, hunger, that would encourage him to feed at the mother's breast.

de Château and his associates (1977) examined the effect of the use of two hospital policies, test-weighing and use of supplementary feedings, on breast-feeding success. Although the duration of breast-feeding was almost equal for the control group of infants who were test-weighed and received supplementary feeding and the experimental group of infants who were not subjected to these two routines, the failure in the first week was much greater for the control group.

Nursing Staff

The new mother, especially the primiparous mother, has many adjustments to make in the early postpartum. There is the physiological adaptation following parturition, psychological adaptation to motherhood, sociological adaptation to the mothering role, and cultural adaptation to what motherhood and birth mean in her culture. The mother needs care from the nurse in the postpartum setting to make these transitions as safely and securely as possible. If the woman is having any problems in making a successful adaptation she needs appropriate intervention to solve these problems. The mother who has chosen to breast-feed also needs to make a successful adaptation to nursing her infant. The nurse can aid the new mother to successfully adapt to breast-feeding by providing the mother with information. The inexperienced breast-feeding mother will need to know the proper techniques of breast-feeding. Anticipatory guidance provided by the nurse will prepare the woman for some of the physiological and psychological responses the mother may experience while nursing. The attitude of the nurse towards breast-feeding will help convey support or lack of support to the mother initiating breast-feeding with her new infant. Ladas (1970) identified both support and information as being important factors to the outcome of breast-feeding.

Nursing Support

Raphael (1976), an anthropologist, using a cross cultural perspective, illustrated that an important factor in successful breast-feeding is a support person for the mother. She adopted a Greek term 'doula' and defines 'doula' as "one or more individuals, often female, who give psychological encouragement and physical assistance to the newly delivered mother" (Raphael, 1976, p. 172). The term 'doula' has been widely adopted in the breast-feeding literature and refers to the person who supports the mother particularly during the initiation of breast-feeding (Hall, 1978, p. 28; Jelliffe & Jelliffe, 1974, p. 463; 1979, p. 175; Lawrence, 1980, p. 99). In Western cultures where the extended family is less common, the husband often performs the duties associated with the role of the 'doula' once the mother and baby are discharged from the hospital. However, in the period of hospitalization the nurse most frequently performs these duties.

Nurses come to the postpartum setting with their own biases and attitudes toward breast-feeding. These biases and attitudes have developed as a result of their educational preparation and life experiences, which may include the nurses' personal experiences with breast-feeding. The amount of support a nurse gives to a breast-feeding mother may be affected by the nurse's bias and attitude to breast-feeding.

How supportive are nurses toward breast-feeding and what effect does support have on breast-feeding success? Although we know the answers to these questions vary in time and place, different investigators have attempted to examine these questions. In a follow-up study on 44 primiparous women who chose to breast-feed their infants, Brown and his associates (1960) found that only 55% of these mothers reported a co-operative reaction from nurses towards breast-feeding. They do not elaborate on what is meant by a co-operative reaction, but one does not feel the unco-operative reaction on the part of the nurses was very supportive towards breast-feeding. It is also interesting to note that, although no relationship is reported between success and failure or how co-operative the mothers felt the nurses were, only 34% of the mothers were successfully breast-feeding in six weeks.

Lawson (1976) studied 40 primiparous mothers to ascertain their perception of degrees of nursing support for the breast-feeding mother. The women in this particular study felt 75% of the labour and delivery nurses and 52.5% of the postpartum nurses were neutral or negative in terms of support toward the breast-feeding mother. However, 34 of the 40 women who had contact with a pediatric nurse felt 23.5% of these nurses were negative or neutral in terms of support. The alarmingly high number of nurses in the immediate postpartum who are neutral or negative in support towards breast-feeding has serious implications for initiation of breast-feeding, for it is in the immediate postpartum period that the nursing mother needs much support (Nichols, 1978).

Other researchers (Hall, 1978; Young, 1980) have examined the association between nursing support and successful breast-feeding. Hall (1978) conducted a research project aimed at examining the effects of nursing support during hospitalization. She divided three groups of subjects as follows: routine hospital care administered; routine hospital care plus a slide tape on breast-feeding presented; routine hospital care, slide-tape presentation and extra support given by a nurse in the form of postnatal visiting to the mother. In the third group, 80% of the mothers were still breast-feeding at six weeks follow-up compared with approximately 50% in the other two groups. Similarly Young (1980) did a study of the relationship between nursing support and duration of breast-feeding. Her time frame was different from Hall's (1978) in that she gave nursing support three days post discharge from hospital instead of during hospitalization to an experimental group but none to a control group. Her results showed a greater number of women from the experimental group were breast-feeding at six weeks postpartum.

Nursing Knowledge

As breast-feeding declined and bottle-feeding became the more common method of infant feeding not much emphasis was put on breast-feeding knowledge in nursing education. Taylor (1977) feels the lack of information and misinformation on the part of health professionals led to a further decrease in breast-feeding. Burgess (1977) surveyed a group of 100 health professionals consisting of 40 doctors, 29 nurses and 31 midwives in the Philippines to assess their knowledge about breast-feeding. The subjects were required to rank in order of importance six factors necessary to ensure a good supply of breast-milk. Not one respondent mentioned frequent infant feeding, a factor thought to be important. However, 78% mentioned preparation of breasts during pregnancy and good maternal diet as being the two most important factors. Although these factors contribute to success in breast-feeding they are not the most important factors to ensure a good breast-milk supply.

Mothers beginning to breast-feed their newborn infants need to have a source of information about breast-feeding which is consistent and reliable (Dutton, 1979; Gille, 1976). Early problems or difficulties developing in breast-feeding are most often due to the method of feeding (Applebaum, 1972) caused in part by "lack of proper lactation education among health workers" (Helsing, 1976, p. 218). Various nurses (Farebrother, 1976, p. 260; Hall, 1978, p. 30; Jarkowsky, 1980, p. 43; Nicholas, 1978, p. 22) have identified knowledge on the part of the nurse regarding breast-feeding to be necessary to fulfill the mother's informational needs.

Evans and her associates (1969) interviewed 52 mothers to identify their needs associated with breast-feeding that they experienced in the hospital and at home. During their hospital stay the majority of mothers experienced physical needs, i.e., relief of discomfort and breast problems, but a high percentage (40.34%) of the needs were informational needs related to breast-feeding. Primiparous women reported informational needs more frequently than multiparous women. Adams (1963) studied concerns of primigravida women regarding infant care in the early postpartum period and found these women frequently reported informational needs related to breast-feeding.

An investigation of postpartum factors associated with length of breast-feeding (Cole, 1977) revealed that only one-third of the mothers surveyed felt the nurse in the postpartum setting supplied helpful information. However, out of this small number of subjects 79% were still breast-feeding at three months follow-up, a statistically significant result. Kevany and his associates (1977) surveyed women in the postpartum period and asked about sources of advice regarding breast-feeding information. Although 67% of the primiparas indicated they wanted more information only 61% could recall getting any information from health professionals, either pre- or postpartum. Mothers surveyed have repeatedly mentioned the need for a greater amount of information regarding breast-feeding in the postpartum period.

Summary

A number of studies have been reported in the literature dealing with success or failure of the human mother in establishing or maintaining breast-feeding with her newborn infant. The majority of studies have focused on personal-social factors related to the choice of breast-feeding. Age (Bacon & Wylie, 1976), parity and previous breast-feeding experience (Brimblecombe & Cullen, 1977), educational level and higher socioeconomic status (Kevany et al., 1975), mother's own method of feeding (Eastham et al., 1976), and feeding method and experience of friends (Jones & Belsey, 1977) are some variables that have an influence on a woman's decision to breast-feed and her success in breast-feeding.

Other studies have focused on the type of preparation a woman has for breast-feeding and how this preparation increases success. Both physical preparation (Atkinson, 1979) and education relating to breast-feeding (Whitley, 1978) help to influence the outcome of breast-feeding. Although not much research has been reported on the labour and delivery experiences in relation to breast-feeding success, Jackson and his associates (1956) found a difficult labour was associated with breast-feeding failure.

A number of investigators (de Château, 1977; Johnson, 1976; Sousa, Kennell, Klaus & Urrutia, 1976) have reported a longer duration of breast-feeding associated with early skin and sucking contact of the mother and infant. The timing and quality of the mother's first contact with and breast-feeding of her newborn infant sets the tone for future breast-feeding episodes. If the mother-infant pair have an early and positive experience, they will continue more successfully with breast-feeding than if the experience is delayed and negative.

Hospital practices can foster success in breast-feeding. Rooming-in of the baby with the mother (Jackson et al., 1956), demand feeding (Salariya et al., 1978), and discontinuing test-weighing and supplementary formulas (de Château et al., 1977) are some hospital practices that have been empirically studied and relate to success in breast-feeding. Health professionals within the hospital environment affect the outcome of breast-feeding. Nursing support (Hall, 1978; Lawson, 1976) and knowledge regarding breast-feeding on the part of the nurse (Evans et al., 1969) can help the mother to initiate a satisfying breast-feeding experience with her newborn infant.

The majority of the studies tend to be retrospective correlational studies because the complexity of the factors influencing breast-feeding success are not easily studied by means of experimental designs. The subject area is best investigated by exploring the relationship between a number of factors and the early outcome of breast-feeding. Many of the factors have been identified through previous studies, but new factors affecting success in breast-feeding need to be sought out in order to identify as many factors as possible. In this way the mother's initiation of breast-feeding can become a more satisfying experience for herself and her infant.

CHAPTER III

METHODOLOGY

Design

This was a descriptive study designed to explore the experiences of new mothers in successfully initiating breast-feeding with their newborn infants. Specific relationships were to be explored in the following categories: a woman's decision to breast-feed her infant, her preparation for breast-feeding, her labour and delivery experiences, her initial contact with and breast-feeding of her infant, her postpartum hospital environment, and her success in initiating breast-feeding in the early postpartum period. Sociological factors such as the subject's age, occupation, and educational level were obtained in order to explore the relationship between these data and the degree of success in initiating breast-feeding.

Population

The population consisted of 40 healthy women who had recently delivered a live infant at one large city hospital within a three week data collection period. Several criteria were established to determine inclusion in the study. One criterion was that the woman be primiparous. This was done in order to control for the possible effects of parity on initiating breast-feeding. A second criterion was that the mother and her infant be healthy. The definition of healthy was operationalized by excluding from the study population any mother-infant pair if either of the pair had experienced any intrapartal or postpartal complication which resulted in a delay in the initiation of breast-feeding. This definition did not exclude six women who had their infants delivered by Caesarian section. The third criterion to be met by the subjects was that the woman had been informed of the study and had voluntarily agreed to participate. The fourth and last criterion was that the woman be able to understand the English language and to be able to speak it fluently.

The subjects varied according to marital status, ethnicity, country of birth and place of residence. However, the majority were married, caucasian, born in Canada, and living within the metropolitan area where the hospital was situated.

Ethical Considerations

Using human beings for subjects in research, as was the case in this investigation, requires that certain ethical considerations are covered in order to protect the rights of the subjects. Accordingly, the following ethical criteria were established for this study. The research proposal and proposed interview schedule were subjected to peer and selected faculty review. Next the Clinical Investigation Committee at the proposed agency considered and approved the research proposal. Before a patient at the agency was approached, her attending physician was asked for written consent to interview the patient. (See Appendix A.) Each subject was informed in writing and again verbally about the study and was asked to sign a consent form if she voluntarily agreed to participate in the study. (See Appendix A.) All subjects were assured complete confidentiality of any information that they gave to the investigator. To assure privacy, the use of a room was arranged where the subject could be interviewed.

Setting

Three separate nursing units in one large metropolitan hospital were utilized to obtain subjects and as the setting of the interviews for this study. All three nursing units operated under the same policies regarding postpartum care. Therefore, all the women in the study would have had equal opportunity to choose a demand feeding schedule and a "rooming-in" arrangement with their infants. Free access to the central nursery was available to all the subjects. Test weighing, weighing an infant prior to and post breast-feeding was not a routine practice at the hospital. All infants, both bottle- and breast-fed were weighed daily.

Timing of the first breast-feeding episode was a decision of the mother as long as there were no complications with the infant or the mother. A woman could attempt to breast-feed on the delivery table soon after birth if she chose to do so. Regardless of whether or not a woman attempted to breast-feed her infant immediately post-delivery, an initial bottle feeding of plain water was administered to the infant within the first four hours after birth by either a nursery staff member or the mother. After this first feeding an infant was breast-fed. Supplementary bottles of glucose and water were given to the mother for each breast-feeding episode and she was encouraged to offer the glucose and water to the infant after breast-feeding, especially in the first few days postpartum. She could decide not to use the supplementary feeding if she disagreed with this practice. An individual attending physician could also instruct that no breast-fed infant under his care was to receive bottle feedings unless specified. Infants being breast-fed were given formula for the two a.m. feeding period unless the mother indicated she wished to be awakened to breast-feed. Group classes were held tri-weekly to present information and to help the breast-feeding mother. All nursing mothers were made aware of these classes, participation being voluntary.

Definitions

As stated in the beginning of this chapter, five main constructs were used to explore factors theoretically important to initiating breast-feeding between a mother and her newborn infant. While the constructs could not be measured directly, the variables thought to be indicators of the construct were measured. The five constructs (theoretical definition) and the variables used to measure the constructs (operational definition) were defined.

Influences on a Mother's Decision to Breast-Feed

Theoretical definition. Factors reported in correlational and observational studies in the literature thought to have a positive effect on a woman's decision to breast-feed her infant.

Operational definition. 1. Attitudes or predisposition of the mother toward breast-feeding as measured by: her main reason for breast-feeding, lack of embarrassment over this method of infant feeding, and expression of positive statements toward breast-feeding. 2. Life events related to breast-feeding such as the mother having been breast-fed as an infant and previous maternal observation of breast-feeding practices. 3. Congruence with sib-cultural groups or the extent to which family (especially the husband), close friends, and health professionals have encouraged and/or supported the mother's decision. The extent to which members of family and friends have practiced breast-feeding and the quality of their experience is also included.

Preparation for Breast-Feeding

Theoretical definition. Actions taken by the woman of a physical or educational nature for the purpose of facilitating the initiation and continuation of breast-feeding. The emphasis is on preparatory actions mentioned in nursing and other health-related literature.

Operational definition. The following variables are considered under this construct: nipple and breast conditioning, sources used to get information about breast-feeding, attendance at prenatal classes, content in prenatal class regarding breast-feeding, and perceived adequacy of preparation.

Labour and Delivery Experiences

Theoretical definition. How the woman perceives her labour and delivery in terms of difficulty, perceived support and preparedness for the birth process.

Operational definition. Variables such as length of labour, perceived difficulty of delivery, type of delivery, how close the woman felt the actual labour and delivery were to the anticipated labour and delivery, and support from her partner during labour and delivery are used to operationalize this construct.

Initial Contact and Feeding Experiences

Theoretical definition. Factors surrounding the first contact and/or feeding situation(s) between the mother and her newborn infant together with the reactions of the mother and infant.

Operational definition. The following variables were used to measure this construct: sex of the infant, how close the actual infant resembles the fantasy infant, proximity in time from birth to first holding and/or feeding the infant, the mother's perception of the infant's reaction to first suckling, support the mother receives for the first feeding, and any problems or concerns the mother has about the first feeding.

Hospital Environment

Theoretical definition. Surroundings in the hospital related to both physical (structural) and personnel (staff), with an emphasis on how the mother perceives nursing performance as it relates to help she receives in initiating breast-feeding.

Operational definition. The following variables are explored under physical surroundings: type of accommodation for the mother and infant, amount of privacy and freedom from interruption during breast-feeding, and the scheduling of the infant's feeding. The variables used to explore personnel include perceived support received from the nursing staff, consistency of information received, and the degree to which the mother felt the nurse was knowledgeable about breast-feeding.

Success or Failure in Initiating Breast-Feeding

Theoretical definition. Success or lack of success in establishing breast-feeding, especially in the early postpartum period, is a more difficult construct to define because it may be highly subjective and may be either real or perceived by the mother. The reason for the difficulty is that one must consider two dimensions, physiological and psychological, for both the mother and infant.

There are some objective and subjective criteria for measuring at least physiologic success in both mother and infant. For the mother, under the hormonal control of prolactin and oxytocin, lactation is composed of two main phases. The first phase is milk secretion in which the milk is secreted and stored in the mother's breast. The second phase is milk removal in which the infant is able to obtain the stored milk with the aid of the ejection reflex (Cowie, 1977, p. 571). There are some subjective and objective signs the mother may experience as a result of the ejection-reflex (Weichart, 1975). Newton and Newton (1950) studied the presence of ejection-reflex signs in 127 women in the early postpartum. They found that the symptoms of the let-down reflex occurred more frequently in successful than unsuccessful breast-feeding women. For the infant, physiologic success can be measured in terms of nutritional needs of the infant being supplied through breast-feeding. Psychological success in breast-feeding is more difficult for the mother-infant dyad because of the lack of any definite objective signs.

Operational definition. To operationalize the definition of successful breast-feeding in the early postpartum period, several criteria were used. The mothers' perceptions of the following were elicited: the infant's need for postlacteal glucose and water after a breast-feeding episode; both infant's and mother's satisfaction with the initiation of breast-feeding; the estimated degree of success of the mother; and presence of physical signs, such as breast-engorgement, ejection-reflex symptoms, and breast-milk. In addition, the woman was asked how long she felt she would breast-feed her infant, if she would discontinue breast-feeding to return to work, and based on her present experience would she breast-feed her next infant and recommend breast-feeding to another new mother without hesitation.

Ejection Reflex

The ejection reflex as defined by Lawrence (1980) is "A reflex initiated by the suckling infant at the breast which triggers the pituitary gland to release oxytocin into the blood stream. The oxytocin causes the myoepithelial cells to contract and eject the milk from the collecting ductules" (p. 347). The signs and symptoms of the ejection reflex investigated were a tingling sensation in the breast, leaking of milk from the contralateral breast, and the sensation of abdominal contractions as the infant begins to breast-feed.

Research Instrument

A review of the pertinent literature did not point to an instrument that could be used or adapted to collect the necessary data, but was helpful in developing an instrument which could be used by identifying factors thought to be important to success or failure in breast-feeding. A 58-item standardized interview schedule was developed to yield the desired information for this study. The schedule contained a combination of fixed-alternative and open-ended questions. (See Appendix B.) The interview schedule was standardized, that is "the questions, their sequence, and their wording was fixed" (Kerlinger, 1973, p. 481), to keep the data collecting instrument as consistent as possible.

Data Collection

Data collection took place over a period of three weeks and consisted of administering a standardized interview to each subject between her third and fifth day postpartum. All interviews were conducted by one interviewer, the researcher, in order to keep the data collection as consistent as possible. Although it is recognized that one interviewer does not eliminate interviewer bias it helps keep it at a minimum and unidirectional (Wechsler, 1979, p. 102).

Procedure for obtaining subjects was as follows. The head nurse of each unit checked the in-patient list daily to see if there were any patients fitting the criteria for inclusion in the study. The nurse then obtained written permission from the attending physician to interview the patient. The patient was given a letter explaining the study and asked to participate. If the patient wished to participate she signed a permit and returned it to the nursing staff. The investigator collected the permits daily and approached each woman to set up a convenient time to interview her. The woman was then interviewed at the appointed time, the average length of the interview being approximately 30 minutes.

Statistical Analysis

All data was coded and put in a SPSS file (Statistical Packages for the Social Sciences) (Nie, Hull, Jenkins, Steinbrenner & Brent, 1975). Frequencies and crosstabulations were performed on the data in order to describe the population with respect to the variables being investigated.

Factor analysis was performed on the indicators of successful initiation of breast-feeding. Factor scores were obtained for each of the subjects on the factors obtained. The factor scores were used to correlate with other variables in the study. Analysis of variance was performed using the factor scores as dependent variables.

Reliability and Validity

Two major criteria for assessing the quality and adequacy of a research instrument are reliability and validity (Krueger, Nelson, & Womin, 1978, p. 206; Polit & Hungler, 1978, p. 424). Reliability reflects the accuracy or consistency of the measuring instrument as it is used under certain conditions and with certain groups. The KR-20 (Kuder-Richardson-20) was used to test the internal consistency of the indicators of successful initiation of breast-feeding and will be reported under the results section.

Validity is defined by Polit and Hungler (1978) as "the degree to which an instrument measures what it is supposed to be measuring" (p. 434). Krueger and associates (1978) divide validity into two classifications, subjective and objective validity (p. 207). Subjective validity is further divided into face and content validity, while objective validity is comprised of concurrent, predictive, and construct validity.

Content validity is "the representativeness or sampling adequacy of the content" (Kerlinger, 1973, p. 207). Content validity "raises questions about what the instrument measures by asking about its content" (Krueger et al., 1978, p. 207). In an attempt to establish content validity the conceptual model, representing the universe of interest, and the proposed interview schedule were sent to six content experts. These people were nurses who had a knowledge and interest in the area under investigation. Both the conceptual model and questionnaire were modified according to feedback from the content experts.

Face validity is present when "the instrument as a whole appears to be an adequate measure of the concept it was intended to measure" (Krueger et al., 1978, p. 207). Face validity is concerned with such factors as the measurability, readability, and clarity of the items and overall instrument. To achieve some degree of face validity the first step was to submit the interview schedule to peer, selected faculty and the content experts in the field of maternal-newborn nursing for their comments regarding clarity of the instrument. After a revision of the items on the schedule the entire interview was administered to three subjects similar to the subjects who would be tested with the instrument. Minor changes were made after the pilot use of the schedule.

CHAPTER IV

RESULTS AND DISCUSSION

The presentation of findings from this study are divided into four sections. The first section contains a description of the characteristics of the population, the second, a description of the subjects' experiences initiating breast-feeding with their infants in the early postpartum period, and the third, factor analysis of the indicators of successful initiation of breast-feeding and a description of the factors. The fourth and last section contains the relationships among the major variables.

Characteristics of the Population

In total 40 primiparous women were interviewed. The ages of these women ranged from 19 to 30 years with a mean age of 25.85 years. A slightly higher percentage of women had completed a diploma from a technical college or its equivalent (47.5%) as their highest educational achievement, than had just completed high school (35.0%). A smaller percentage had completed a university degree (17.5%). There was considerable variation in occupation among the subjects. The majority of women had worked outside the home prior to delivery. The largest number worked in office or service related occupations (20 out of 40). Eleven subjects occupied professional positions such as nursing, teaching, and social work.

Pregnancy had been planned by 27 of the 40 women and their partners, indicating that the majority of subjects had given some thought to having an infant at this point in time. The number of women who decided to breast-feed prior to pregnancy, i.e., had decided long ago to breast-feed should they have an infant, was equal to the number of women coming to a decision after becoming pregnant. A crosstabulation between the timing of the woman's decision and whether or not the pregnancy was planned revealed that 80.0% of the women in the study population who stated they had decided to breast-feed prior to pregnancy had planned their pregnancy. Table 1 is a summary of the characteristics of the population.

Women's Experiences Initiating Breast-Feeding

Factors Influencing the Mothers' Decisions to Breast-Feed

Infant-centered reasons were given by the majority of mothers (28 out of 40) as the main reason for wanting to breast-feed. An infant-centered reason was defined as any reason that considered some aspect of infant welfare as being the motivating force behind choosing to breast-feed. The most frequently mentioned infant-centered reason was that breast-feeding was generally best for the infant's health. A few mothers mentioned specific health benefits such as immunities against disease and protection against allergies. Two mothers stated that they chose breast-feeding because of the emotional satisfaction the infant would get from this method of feeding. In contrast, if a woman stated she chose to breast-feed her infant because of some perceived benefit to herself, her response was classified as mother-centered. Twelve of the women gave a mother-centered response. Emotional satisfaction of the mother seemed to be the most frequent response in this category.

TABLE 1

Characteristics of the Population (N = 40)

Characteristic	Absolute Frequency	Relative Frequency (%)	Cumulative Frequency (%)
Age			
19-24 years	12	30.0	30.0
25-30 years	28	70.0	100.0
Educational attainment			
High school	14	35.0	35.0
Technical/diploma	19	47.5	82.5
University degree	7	17.5	100.0
Occupation prior to delivery			
Professions (nurse, teachers, and social worker)	11	27.5	27.5
Office/service workers	20	50.0	77.5
Housewives/students	9	22.5	100.0
Need to discontinue breast-feeding to return to work			
Yes	0	0.0	0.0
No	33	82.5	82.5
Unsure	7	17.5	100.0
Pregnancy planned			
Yes	27	67.5	67.5
No	13	32.5	100.0
Timing of decision to breast-feed			
Prior to pregnancy	20	50.0	50.0
After pregnancy confirmed	20	50.0	100.0
Postpartum day interviewed			
Third	5	12.5	12.5
Fourth	27	67.5	80.0
Fifth	8	20.0	100.0

Whether a woman gave an infant-centered or mother-centered reason as the primary reason for breast-feeding did not seem to be influenced by knowledge of her own feeding method, if she planned her pregnancy, or if her partner had influenced her in her decision. The percentage of women who were breast-fed as infants and gave infant-centered reasons (70.0%) was almost equal to the percentage of women who were artificially fed and gave infant-centered reasons (72.7%).

Exactly one-half of the subjects reported that they had been breast-fed by their mothers. Thirteen of the subjects reported being bottle-fed and the remaining seven did not know their method of feeding as infants. The percentage of women in this study who stated they had been breast-fed as infants is lower than that reported in two similar studies. Bacon and Wylie (1976) and Eastham and his associates (1976) found 78% and 67.9% of the women they surveyed who had decided to breast-feed their infants were breast-fed as infants.

An inquiry about sister and/or friends' practices regarding breast-feeding revealed 15 subjects had a sister or close relative breast-feeding within the past year. An almost equal number of subjects (16) had a friend who had breast-fed. An examination of the subjects' perceptions of the type of experience that their sister or friend had with breast-feeding revealed 23 of the 31 experiences were perceived as positive and eight as negative. The fact that a woman had a sister or a friend who had a positive experience with breast-feeding seemed to have an effect on the women who decided to breast-feed after they knew they were pregnant. In this group 70,0% of the women who decided to breast-feed after pregnancy was confirmed had a sister or a friend with a positive experience compared with 5.0% who had friends with negative experiences breast-feeding. These findings are similar to those of Jones and Belsey (1977) who found a positive relationship between the type of experience a friend had with breast-feeding and whether or not a woman chose to breast-feed.

Overall as many as 77.5% of the subjects recalled seeing a mother nurse her infant. The majority of subjects (72.5%) reported no feeling of embarrassment in the prenatal period about the thought of breast-feeding. Of the women who did report feeling embarrassed (27.5%), the main source of embarrassment was management of breast-feeding in public or in the home if other than their partner were present. It is interesting to note that women who reported seeing a baby being breast-fed were less likely to report feeling embarrassed at the thought of breast-feeding than women who have not had this experience (29.0% compared to 44.4%).

Five of the subjects reported that no one besides themselves was influential in their decision to breast-feed. The remaining 35 subjects reported a variety of persons influencing them in their decision. Twenty-nine of the 35 subjects reported their partners in either a single or multiple response answer. Another family member, e.g., mother or sister, was the second greatest influence (17 out of 35). Friends and health professionals were reported to have little influence. The fact that health professionals had little influence is not surprising in view of the fact that 50% of the women had made their decisions to breast-feed before they came in contact with a health professional. Table 2 is a summary of the influences on the womens' decisions to breast-feed their infants.

TABLE 2

Summary of Responses Regarding Factors Influencing Decision to Breast-Feed

Influencing Factor	Absolute Frequency	Relative Frequency (%)	Cumulative Frequency (%)
Main reason for breast-feeding			
Infant-centered reason	28	70.0	70.0
Mother-centered reason	12	30.0	100.0
Method of feeding of subjects as infants			
Breast-fed	20	50.0	50.0
Bottle-fed	13	32.5	82.5
Method unknown	7	17.5	100.5
Sib-cultural groups' breast-feeding practices within the past year			
Sister and/or friend had breast-fed	31	77.5	77.5
Not applicable	9	22.5	100.0
Sib-cultural groups' experiences with breast-feeding			
Positive	23	73.9	73.9
Negative	8	26.1	100.0
Visual familiarity with infant being breast-fed			
Yes	31	77.5	77.5
No	9	22.5	100.0
Feeling of embarrassment at thought of breast-feeding			
Yes	11	27.5	27.5
No	29	72.5	100.0
Persons influencing the subject's decision[a]			
Partner	29	42.0	42.0
Mother/sister	17	24.6	66.6
Doctor	8	11.6	78.2
Prenatal instructor	3	4.4	82.6
Other (friend, mother- or sister-in-law)	7	10.1	92.7
No one else	5	7.3	100.0

[a] Some subjects gave a multiple response to this question.

Preparation for Breast-Feeding

Information seeking about and physical preparation for breast-feeding varied among the respondents. The majority of women (32) used two or more sources to find information on breast-feeding while only one woman reported no information seeking. Health professionals were reported by 27 of the subjects as a source of information. Prenatal instructors, mainly public health nurses, were mentioned most frequently in the health professional category. Books and films, located by the mother, were the second largest informational source (25 out of 40) followed by information obtained from family and friends. The women were asked to name the best source of information on breast-feeding from the sources that they mentioned. Prenatal classes were most frequently mentioned as the best source of information.

The last reported result is not surprising in view of the large number of women who attended prenatal classes. Twenty-six of the women attended a full series of prenatal classes and 14 did not. Reasons for mothers' non-attendance were either that she attempted to register too late or she felt she did not need to attend. A large number of the women's partners also attended classes (22 out of 26). Of the 26 women who attended prenatal classes, 18 felt that the classes relating to infant feeding had a greater emphasis on breast-feeding compared with bottle-feeding.

Physical preparation of the breasts and/or nipples was practiced by 24 of the subjects. The largest proportion of the women (60.0%) who prepared their nipples used one method, but 40.0% used two or more methods. Towelling, using a towel or washcloth to toughen the skin on the nipples, was the most frequently used preparation followed secondly by nipple rolling exercises to enhance nipple protactility.

In judging whether or not the women felt they were adequately prepared for breast-feeding prior to initiation of breast-feeding, 67.5% felt they were adequately prepared and the remaining 32.5% felt they were not. This was a retrospective question so no doubt experiences the women had with breast-feeding influenced how they answered this question. The only preparatory action that seemed to influence whether the woman felt prepared prior to breast-feeding or not was physical preparation. In this category 80.0% of the women who used a physical preparation for their breasts felt they were prepared prior to breast-feeding compared with 50.0% of the women who did not do any physical preparation and felt they were unprepared. Table 3 is a summary of preparation of the women for breast-feeding.

Labour and Delivery Experiences

The majority of women had a vaginal delivery with an episiotomy (34 out of 40). Of these 34 women, 12 had a forceps assisted delivery. The remaining six subjects had a Caesarian section to deliver their infants; three were anticipated and three were unanticipated. The women reported that the lengths of their labours had ranged from just under two and one-half hours to almost twenty hours. The modal length of labour was 14 hours. Twelve women felt their labour had been close to what they anticipated it would be like, while 28 reported it had been very different. Of these 28 women who felt their labour had been different from what they anticipated, nine felt their labour had been easier and 19 felt it had been a great deal more difficult. The women

TABLE 3

Summary of Preparation for Breast-Feeding

Preparation	Absolute Frequency	Relative Frequency (%)	Cumulative Frequency (%)
Sources of information used[a]			
Formal sources (health professionals)	27	44.3	44.3
Informal sources (family, friends, popular books)	34	55.7	100.0
Best source of information			
Formal sources	15	37.5	37.5
Informal sources	25	62.5	100.0
Woman's attendance at prenatal classes			
Yes	26	65.0	65.0
No	14	35.0	100.0
Partner's attendance at prenatal classes			
Yes	22	55.0	55.0
No	18	45.0	100.0
Method of infant feeding emphasized at prenatal classes			
Breast-feeding	18	69.2	69.2
Bottle-feeding	1	3.9	73.1
Both methods equally presented	7	26.9	100.0
Physical preparation of nipples and/or breasts			
Yes	24	60.0	60.0
No	16	40.0	100.0
Perceived adequacy of preparation prior to initiating breast-feeding			
Felt adequately prepared	27	67.5	67.5
Did not feel adequately prepared	13	32.5	100.0

[a] Some subjects gave a multiple response to this question.

who thought labour had been more difficult frequently said they did not feel antenatal class prepared them for how difficult in terms of pain the labour would actually be. Most women (26 out of 40) felt they had a difficult delivery while 14 felt their deliveries were not difficult. A comparison of the women's actual delivery to what they had anticipated revealed that 19 felt their delivery had been more difficult than what they had anticipated. Of the remaining 21 women, seven felt it had been the same as they had anticipated and 14 felt it had been easier. The women were asked if they received any medication during labour. Thirty-two reported they had received an analgesic and eight reported they had no medication. Of these eight, four had prepared for "natural childbirth" and had refused medication.

Except for three women, all the women had had their partners with them throughout labour. Thirty women also had had their partners present for the actual delivery. The women who had had their partners present during labour and/or delivery mentioned how important it had been for this person to be with them. They felt their partner had been very supportive and this had helped them through labour and delivery. Table 4 is a summary of labour and delivery experiences.

Initial Contact and Feeding Experiences with Infants

During pregnancy as fetal movements are felt by a woman, she begins to fantasize what her infant will be like. The women in this study were asked how close their actual infant resembled the infant that they had imagined throughout pregnancy. They were asked to elaborate on how the infant resembled or differed from their fantasy infant. Seventeen of the women felt their infant was very similar in either sex

TABLE 4

Summary of Labour and Delivery Experiences

Labour and Delivery Experience	Absolute Frequency	Relative Frequency (%)	Cumulative Frequency (%)
Method of delivery			
Vaginal and episiotomy	22	55.0	55.0
Vaginal, episiotomy and forceps	12	30.0	85.0
Caesarian section	6	15.0	100.0
Length of labour			
Less than 12 hours	20	50.0	50.0
12 hours or greater	20	50.0	100.0
Actual labour versus anticipated labour			
Similar	12	30.0	30.0
Different (easier)	9	22.5	52.5
Different (more difficult)	19	47.5	100.0
Analgesia during labour			
Yes	32	80.0	80.0
No	8	20.0	100.0
Perceived difficulty of delivery			
Difficult	26	65.0	65.0
Not difficult	14	35.0	100.0
Actual delivery versus anticipated delivery			
Similar	7	17.5	17.5
Different (easier)	14	35.0	52.5
Different (more difficult)	19	47.5	100.0
Presence of partner			
Labour only	7	17.5	17.5
Labour and delivery	30	75.0	92.5
Neither labour nor delivery	3	7.5	100.0

or appearance to their fantasy infant. The remaining 23 women felt their infants differed. The biggest discrepancy was sex of the infant. Fifteen of the 23 women had imagined, or perhaps had hoped for, an infant of a different sex. There were 19 males and 21 females born to the subjects.

The largest percentage of women (77.5%) had early contact with their infants, i.e., they held them within the first two hours after birth. However, only five of the women in the early contact group breast-fed their infants at this time. The majority of subjects (60.0%) did not initiate breast-feeding until greater than eight hours after birth. The mothers' rating of the infants' reactions to their first breast-feeding episode revealed that 21 of the women perceived a very positive reaction from their infants. The infants began to nurse well with little or no help. The remaining 19 women felt their infants needed assistance to begin and to continue nursing.

The majority of women (29) had questions and concerns about their first breast-feeding experience. Many of these questions and concerns had to do with technical aspects of breast-feeding, e.g., proper positioning and getting the baby to fix properly on the breast. Fewer women (19) mentioned problems with this event. Thirty-two women had a nurse present for the first breast-feeding experience. These 32 women all felt it was necessary to have the nurse present because she was able to help them with techniques to facilitate breast-feeding, answer their questions, or to give support.

The women were asked how well they felt they had been prepared for breast-feeding after they had actually breast-fed. Overall most of the women (31) felt they had been prepared, but nine felt they had been unprepared. Table 5 summarizes initial contact and feeding experiences of the mothers with their infants.

Hospital Environment

Nineteen of the 40 subjects had a semi-private room. The remainder were divided fairly evenly in private or multiple-bed rooms. Almost all of the subjects were pleased with their type of accommodation and felt it provided adequate privacy for breast-feeding their infants. Forty percent chose a rooming-in arrangement with their infants, 32.5% chose demand feeding, and 27.5% chose to supplement breast-feeding with formula. In a rating of organization of breast-feeding periods for freedom from interruption, 77.5% of the women felt the feeding periods were well organized.

Twenty-nine of the subjects felt the advice they received from the nurses working in the postpartum units was consistent. The remaining 11 subjects felt there were inconsistencies in the information that they received. They felt the inconsistencies made it difficult to know correct methods to use during feeding. A higher percentage (82.5%) rated the postpartum nurses as knowledgeable and supportive towards breast-feeding. There is a possible bias present in these responses in that the subjects were interviewed in the hospital setting and therefore may have been unwilling to rate the nurses unknowledgeable or unsupportive. Thirteen of the subjects reported the nurses to be the most important source of help in initiating breast-feeding.

At the time of the interview, between the third and fifth postpartum day, 16 of the women felt they still had questions and concerns

TABLE 5

Summary of Initial Contact and Feeding Experiences of the Mothers and Their Infants

Experience or Characteristic	Absolute Frequency	Relative Frequency (%)	Cumulative Frequency (%)
Sex of the infant			
Male	19	47.5	47.5
Female	21	52.5	100.0
Actual infant versus fantasy infant			
Similar	17	42.5	42.5
Differs	23	57.5	100.0
Time first held infant			
Early contact (within first two hours of birth)	31	77.5	77.5
Late contact (greater than two hours after birth)	9	22.5	100.0
Time first breast-fed infant			
Early initiation (within first eight hours of birth)	16	40.0	40.0
Late initiation (greater than eight hours after birth)	24	60.0	100.0
Infant's reaction			
Very positive	21	52.5	52.5
Fairly positive	19	47.5	100.0
Person present for breast-feeding			
Nurse only	28	70.0	70.0
Husband only	3	7.5	77.5
Nurse and husband	4	10.0	87.5
No one present	5	12.5	100.0
Questions and concerns about breast-feeding			
Yes	29	72.5	72.5
No	11	27.5	100.0
Problems experienced with breast-feeding			
Yes	19	47.5	47.5
No	21	52.5	100.0
Perceived preparation			
Prepared	31	77.5	77.5
Not prepared	9	22.5	100.0

regarding breast-feeding. The most frequently encountered concern (10 women) was if the mother had enough milk for her infant. This finding is important in light of the findings from four other studies (Bacon & Wylie, 1976; Brimblecombe & Cullen, 1977; Eastham et al., 1976; Sjolin et al., 1977). They all found the most frequently stated reason for early discontinuation of breast-feeding was a perceived inadequacy of milk supply on the part of the mother. Many of the women (65.0%) were encountering problems associated with breast-feeding. The problems that the women stated they were encountering tended to be physical in nature, sore nipples being the most frequently mentioned problem. Table 6 is a summary of the factors in the hospital environment related to initiation of breast-feeding.

Successful Initiation of Breast-Feeding

Factor Analysis of Success

A number of a priori measures were defined to be indicators of a successful initiation of a satisfactory breast-feeding experience. Factor analysis was performed on these measures in order to identify the major categories or factors that were actually being measured. Both an orthogonal (uncorrelated) and oblique (correlated) analysis were performed. The most interpretable solution obtained was a three factor solution with an oblique rotation which accounted for 63.3% of the variance. One item, if the mother felt she needed to discontinue breast-feeding to return to work, was eliminated because it had a low communality value (0.27) and it did not load highly on any of the three factors. All three factors had eigenvalues greater than one. Table 7 shows the three factor solution from the oblique rotation. Each factor

TABLE 6

Summary of Factors in Hospital Environment

Hospital Environment Factor	Absolute Frequency	Relative Frequency (%)	Cumulative Frequency (%)
Type of accommodation			
Private room	10	25.0	25.0
Semi-private room	19	47.5	72.5
Four bed room	11	27.5	100.0
Actual versus preferred accommodation			
Same	35	87.5	87.5
Different	5	12.5	100.0
Accommodation offers sufficient privacy for breast-feeding			
Yes	38	95.0	95.0
No	2	5.0	100.0
Infant rooming-in			
Yes	16	40.0	40.0
No	24	60.0	100.0
Demand feeding of infant			
Yes	13	32.5	32.5
No	27	67.5	100.0
Breast-feeding periods well organized to prevent interruptions			
Yes	31	77.5	77.5
No	9	22.5	100.0
Requested information from nursing staff about breast-feeding			
Yes	28	70.0	70.0
No	12	30.0	100.0
Consistency of information			
Consistent	29	72.5	72.5
Not consistent	11	27.5	100.0
Knowledge of nurses regarding breast-feeding			
Knowledgeable	33	82.5	82.5
Unknowledgeable	7	17.5	100.0
Support from nurses			
Supportive	33	82.5	82.5
Unsupportive	7	17.5	100.0

TABLE 7

Major Variables in Success: Oblique Factor Structure Matrix

Variable Number	Variable Description	Communalities	Factor I	Factor II	Factor III
63	Mother's satisfaction	0.87551	0.93368[2]	0.03515	-0.08663
64	Infant's satisfaction	0.51435	0.70857	0.06771	-0.21858
65	Successful initiation	0.71302	0.82554	0.13042	-0.28654
68	Breast-feed next infant	0.79457	0.87886	-0.01928	0.00685
69	Recommend breast-feeding	0.73588	0.84959	-0.02887	-0.02395
55	Postlacteal glucose unnecessary	0.34314	0.06467	0.58184	-0.06461
59	Breast engorgement present	0.59304	0.16542	0.73439	-0.34188
60	Feels breast-milk is in	0.71971	0.13233	0.80966	-0.39459
66	Time planning to feed	0.69769	0.42415	-0.65144	-0.20038
56	Ejection reflex symptom 1	0.35899	0.20960	0.14982	-0.58589
57	Ejection reflex symptom 2	0.59179	0.35537	0.38814	-0.67803
58	Ejection reflex symptom 3	0.65393	0.23271	-0.08020	0.72655
	Percentage of total variance	63.3%	33.7%	19.9%	9.7%
	Eigenvalue		4.04241	2.38286	1.16626

Note. The items have been re-ordered from the original (Appendix B) for ease of viewing loadings of 0.50 and greater on each factor.

[2] Loadings of 0.50 and greater are underlined.

Correlations Among Oblique Factors

Factor I	1.00000		
Factor II	0.04020	1.00000	
Factor III	-0.15642	-0.19005	1.00000

will be discussed separately.

Factor I: Satisfaction

The first factor accounted for 33.7% of the total variance and related mainly to satisfaction with breast-feeding. Five items had high-positive loadings; all loadings at 0.7 and higher (Fruchter, 1954, p. 151). The items that loaded highly on this factor were the mother's satisfaction with the experience, how satisfied the mother felt the infant was, how successful the mother rated herself, and based on the present nursing experience if the woman would breast-feed her next infant and recommend breast-feeding to another new mother. The length of time a new mother would breast-feed her infant loaded moderately high on this factor. The factor was labelled satisfaction because all the items were related to how satisfied the mother seemed to be with the experience of breast-feeding.

Factor II: Lactation

The second factor accounted for 19.9% of the total variance and related primarily to the woman's perception of breast milk production. Four items loaded highly on this factor. Included as high positive loadings were: the mother did not feel her infant required postlacteal glucose feedings, she had initial breast engorgement, and she had breast milk present. The length of time the woman was planning to breast-feed her infant loaded high-negatively on this factor. The factor was labelled lactation which was defined as the formation and secretion of milk.

Factor III: Maternal Physiological Response

The third factor accounted for only 9.7% of the total variance. All three items loading on this factor were concerned with the presence of commonly experienced symptoms of the ejection reflex. Tingling sensation in the breast and leaking of milk from the contralateral breast as the infant begins to feed loaded high-negatively. Uterine contractions experienced as nursing began loaded high-positively. Also loading moderately-negatively was presence of breast engorgement and presence of milk. All of these factors related to physiological response of the mother to nursing and so the factor was labelled maternal physiological response.

Relationship Among the Major Variables

Correlation Among the Factors

A correlation among the three factors indicated there were very low correlations present. Factors I and II had a low positive relationship. Factor III correlated negatively with both Factors I and II. There were very weak relationships between any two of the factors. Table 7 contains the correlation among the factors.

Analysis of Variance

In order to investigate if there were differences between groups of subjects in relationship to the three factors obtained, analysis of variance was performed. Analysis of variance "seeks to determine the probability that a predictor variable could yield results different from simple random selection" (Iverson & Norpoth, 1976, p. 5). All the variables thought to contribute to successful initiation of a satisfactory breast-feeding experience were used as independent variables in a one-way analysis of variance. Only those results in which there was an absolute difference in mean factor scores placing compared groups 20 or more percentile points apart will be discussed.

Factor I: Satisfaction--Dependent Variable

Hospital environment. Variables explored under this construct appeared to be more important to satisfaction than any of the variables investigated in the other constructs. There were seven statistically significant findings (α 0.05). Factor scores were higher for the groups of women who felt they had adequate privacy for breast-feeding, were satisfied with their type of hospital accommodation, felt breast-feeding periods were well organized, and reported receiving consistent information on breast-feeding. The care the subjects received from the nurses in the postpartum setting also significantly influenced satisfaction. The groups who perceived the nurses to be knowledgeable and supportive had higher factor scores than the groups who perceived the nurses to be unknowledgeable and unsupportive. The last statistically significant result in this section was presence of questions and concerns about breast-feeding at the time of the interview. The group of women who still had questions and concerns scored lower on satisfaction.

Although the results were not statistically significant, women in the group who chose to supplement their infants with formula scored lower on their factor scores for satisfaction than women who did not use formula supplements. This is an expected result because it was anticipated that women who felt they were able to supply their infants' needs for milk would tend to feel greater satisfaction. A rival hypothesis might be that the infant sucking on an artificial nipple for the formula supplement would show awkwardness in breast-feeding, thereby decreasing the mother's satisfaction. The findings from the variables investigated under the heading hospital environment are important, particularly for nurses working in that setting. These findings tend to corroborate those of Cole (1977) who felt a major factor for the establishment of successful breast-feeding was the postpartum environment.

Preparation for breast-feeding. A significant difference was found between the mean score on satisfaction for groups that felt prepared to breast-feed prior to their first breast-feeding episode and those who felt they were unprepared. The women with the higher factor scores were in the group that stated they felt prepared. The above results seem reasonable in that women who felt they were prepared would tend to be more confident about their ability to breast-feed. Being confident about breast-feeding would tend to lead to a more satisfying experience.

Initial contact and feeding. In terms of satisfaction there was a significant difference (α 0.05) between the group who rated themselves prepared on the basis of their first breast-feeding episode and the group who felt unprepared. The prepared group scored higher on satisfaction. This result is in keeping with the findings of Evans and her associates (1969). Women who experienced expected difficulties were more successful than women who experienced unexpected difficulties.

A second trend, although not statistically significant, was evident in this section. Women with questions and concerns about their first breast-feeding episode tended to score lower on satisfaction than women who did not report questions and concerns. The women who experienced these concerns may have had more negative experiences with the first breast-feeding episode and this detracted from their level of satisfaction.

Influences on a mother's decision to breast-feed. None of the variables investigated under this heading were statistically significant (α 0.05) in terms of satisfaction. However, certain trends were evident from a comparison of the mean scores of the different groups. The mean scores on satisfaction for the group with planned pregnancies and the group with unplanned pregnancies showed the largest difference. Of the two groups, the group with the planned pregnancies had a higher mean factor score indicating a trend for women with planned pregnancies to be more satisfied with initiation of breast-feeding. The women with the unplanned pregnancies may have had some ambivalent feelings towards pregnancy, childbirth, and the infant that needed to be resolved before they could feel satisfied about breast-feeding.

Two other results are interesting to note. Women who gave mother-centered reasons as their main reasons for deciding to breast-feed had higher factor scores on satisfaction than women who gave infant-centered reasons. Likewise, women who stated they had been bottle-fed as infants scored higher on the factor satisfaction than either women who had been breast-fed or did not know their method of feeding as infants. Both of the above results are interesting in that the converse was expected. Women who chose to breast-feed were more likely to have infant-centered reasons for breast-feeding and more likely to have been breast-fed as an infant than women who chose to bottle-feed (Eastham et al., 1976; Kevany et al., 1975). Women with mother-centered reasons might experience more immediate satisfaction, i.e., emotional satisfaction for themselves than women with infant-centered reasons, i.e., for the health of the infant. Therefore, the former group would tend to express greater satisfaction in the early postpartum period. Similarly the woman who was bottle-fed as an infant might express more satisfaction because she has 'done better than her mother'.

Labour and delivery experiences. The group who had their partners present during labour scored lower on satisfaction than the group who did not have their partners present. This was an unexpected result and difficult to explain. Norr and associates (1977) found social support during labour contributed significantly to the woman's enjoyment during childbirth. It was felt that the partner's support (all the subjects with partners present were pleased with his presence) would enhance general satisfaction in the postpartum period. This was not the trend for this group of subjects. Many intervening variables, e.g., partner unsupportive towards breast-feeding, might have produced this result.

Sociological variables. Age, occupation, and highest educational attainment were not statistically significant using satisfaction as the dependent variable. However, the group of women reporting high school as their highest educational attainment had the highest factor scores of the three groups studied. Students had the highest mean factor scores for satisfaction in the four occupational groups studied. These findings are interesting to note because women with higher educational status are reported to be more successful in breast-feeding. Table 8 presents a summary of the results of analysis of variance using Factor I as the dependent variable.

Factor II: Lactation--Dependent Variable

Influences on a mother's decision to breast-feed. Several trends were evident from the variables studied under this heading, although there were no statistically significant results. Women who reported they had been breast-fed as infants had higher mean factor scores for lactation than women who reported they were not breast-fed or were unsure of their method of feeding as an infant. Likewise, the group who stated they were not embarrassed at the thought of breast-feeding scored higher on lactation than the group who felt that breast-feeding was embarrassing. Although lactation is a physiological process, attitudes on the part of the mother influence successful lactation. The group who felt that breast-feeding was embarrassing may have been somewhat inhibited when breast-feeding their infants.

Women who planned their pregnancies and decided to breast-feed prior to pregnancy scored lower on the factor scores for lactation. It is difficult to explain these results or to speculate on the intervening variables that may have contributed to the obtained results.

Labour and delivery experiences. It was expected that some of the variables investigated under this heading would affect the process of lactation. Women who reported a difficult delivery and who reported receiving drugs during labour scored lower mean factor scores than women who felt their delivery was not difficult and reported receiving no medication. The women with the difficult deliveries may have needed

TABLE 8

Analysis of Variance: Factor I-Satisfaction--Dependent Variable

Independent Variable Group[a] (n)	Group Mean	Source	Sum of Squares	Mean Squares	D.F.	F Ratio	F Probability
Perceived prior preparation							
No (13)	-0.4621	Groups	4.1123	4.1123	1	4.479	0.0409*
Yes (27)	0.2225	Error	34.8894	0.9181	38		
Infant-centered reason							
No (12)	0.3858	Groups	2.2037	2.2037	1	2.276	0.1397
Yes (28)	-0.1537	Error	36.7980	0.9684	38		
Was breast-fed							
No (13)	0.4244	Groups	3.4682	1.7341	2	1.806	0.1785
Yes (20)	-0.2094	Error	35.5335	0.9604	37		
Unsure (7)							
Planned pregnancy							
No (13)	-0.3852	Groups	2.8580	2.8580	1	3.005	0.0911
Yes (27)	0.1855	Error	36.1437	0.9511	38		
Partner present during labour							
No (3)	0.5035	Groups	0.8222	0.8222	11	0.808	0.3414
Yes (37)	-0.0408	Error	38.1794	1.0047	38		
Questions/concerns first feeding							
Yes (29)	-0.1739	Groups	3.1891	3.1891	1	3.384	0.0737
No (11)	0.4585	Error	35.8125	0.9424	38		

[a] Only those results are reported in which there is an absolute difference placing compared groups 20 or more percentile points apart.

*Indicates significance at 0.05 level.

TABLE 8 (Continued)

Independent Variable Group[a] (n)		Group Mean	Source	Sum of Squares	Mean Squares	D.F.	F Ratio	F Probability
Prepared after								
No	(9)	-0.7158	Groups	5.9496	5.9496	1	6.840	0.0127*
Yes	(31)	0.2078	Error	33.0521	0.8698	38		
Preferred accommodation								
No	(1)	-2.6758	Groups	7.3433	7.3433	1	8.814	0.0052*
Yes	(39)	0.0686	Error	31.6583	0.8331	38		
Adequate privacy								
No	(2)	-2.7259	Groups	15.6429	15.6429	1	25.448	0.0000*
Yes	(38)	0.1435	Error	23.3588	0.6147	38		
Breast-feeding well organized								
No	(9)	-0.9170	Groups	9.7652	9.7652	1	12.692	0.0010*
Yes	(31)	0.2662	Error	29.2365	0.7694	38		
Information consistent								
No	(11)	-0.8738	Groups	11.5852	11.5852	1	16.057	0.0003*
Yes	(29)	0.3315	Error	27.4165		38		
Nurses knowledgeable								
No	(7)	-1.5788	Groups	21.1496	21.1496	1	45.019	0.0000*
Yes	(33)	0.3349	Error	17.8521	0.4698	38		
Nurses supportive								
No	(7)	-1.3152	Groups	14.6777	14.6776	1	22.930	0.0000*
Yes	(33)	0.2790	Error	24.3240	0.6401	38		

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[a] Only those results are reported in which there is an absolute difference placing compared groups 20 or more percentile points apart.

*Indicates significance at 0.05 level.

TABLE 8 (Continued)

Independent Variable Group[a] (n)		Group Mean	Source	Sum of Squares	Mean Squares	D.F.	F Ratio	F Probability
Formula supplement								
Yes	(11)	-0.4795	Groups	3.4881	3.4881	1	3.732	0.0609
No	(29)	0.1819	Error	35.5136	0.9346	38		
Questions/concerns still present								
Yes	(16)	-0.4796	Groups	6.1333	6.1333	1	7.091	0.0113*
No	(24)	0.3197	Error	32.8684	0.8650	38		
Level of education								
High school	(14)	0.3569	Groups	2.8730	1.4365	2	1.471	0.2428
Technical/diploma	(19)	-0.1495	Error	36.1287	0.9765			
University degree	(7)	-0.3082						
Occupation								
Professional	(11)	-0.3131	Groups	2.3333	0.7778	3	0.764	0.5219
Office/service	(20)	0.1473	Error	36.6683	1.0186	36		
Students	(4)	0.3873						
Housewives	(5)	-0.2102						

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[a] Only those results are reported in which there is an absolute difference placing compared groups 20 or more percentile points apart.

*Indicates significance at 0.05 level.

more time for recovery and thus could put less effort into breast-feeding their infants with a resulting delayed lactation. The data on the type of drug or amount that the women received were not collected but it is known that certain drugs delay lactation in the postpartum period (Lozoff et al., 1977).

The women who had their partners present during labour scored lower on factor scores for Factor II than the women who did not have their partners present. As in the results from Factor I, this is difficult to explain.

Sociological variables. As in Factor I, students had the highest mean factor scores of the occupational groups studied. However, in terms of highest educational attainment, technical/diploma graduates had the highest mean factor scores of the groups investigated. The women who were interviewed on their fourth postpartum day scored higher on lactation than the women interviewed on the other two postpartum days. Table 9 represents a summary of the results of analysis of variance using Factor II as the dependent variable.

Factor III: Maternal Physiological Response--Dependent Variable

Influences on a mother's decision to breast-feed. One statistically significant result was obtained in the analysis of variance performed on variables under this particular construct. The group who decided to breast-feed prior to pregnancy had a higher mean factor score on maternal physiological response than the group deciding after pregnancy. The women deciding to breast-feed later may have some ambivalent feelings about breast-feeding which interfered with the ejection reflex.

TABLE 9

Analysis of Variance: Factor II-Lactation--Dependent Variable

Independent Variable Group[a] (n)	Group Mean	Source	Sum of Squares	Mean Squares	D.F.	F Ratio	F Probability
Was breast-fed							
No (13)	-0.4652	Groups	4.2288	2.1144	2	2.250	0.1196
Yes (20)	0.2521	Error	34.7716	0.9398	37		
Unsure (7)	0.1436						
Felt embarrassed							
Yes (11)	-0.4474	Groups	3.0376	3.0376	1	0.883	0.3534
No (29)	0.1697	Error	35.9628	0.9464	38		
Plan pregnancy							
No (13)	0.3762	Groups	2.7262	2.7262	1	2.856	0.0992
Yes (27)	-0.1811	Error	36.2741	0.9546	38		
Decided prior to pregnancy							
No (20)	0.2625	Groups	2.7562	2.7562	1	2.890	0.0973
Yes (20)	-0.2625	Error	36.2442	0.9538	38		
Delivery difficult							
Yes (26)	-0.1997	Groups	2.9615	2.9615	1	3.123	0.0852
No (14)	0.3708	Error	36.0388	0.9484	38		

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[a] Only those results are reported in which there is an absolute difference placing compared groups 20 or more percentile points apart.

TABLE 9 (Continued)

Independent Variable Group[a] (n)	Group Mean	Source	Sum of Squares	Mean Squares	D.F.	F Ratio	F Probability
Drugs for labour							
Yes (33)	-0.0990	Groups	1.8495	1.8495	1	1.892	0.1771
No (7)	0.4669	Error	37.1508	0.9777	38		
Partner present during labour							
No (3)	0.8516	Groups	2.3519	2.3519	1	2.439	0.1267
Yes (37)	-0.0690	Error	36.6483	0.9644	38		
Level of education							
High school (14)	-0.2209	Groups	2.6873	1.3437	2	1.369	0.2669
Technical/diploma (19)	0.2712	Error	36.3131	0.9814	37		
University (7)	-0.2943						
Occupation							
Professional (11)	0.0187	Groups	2.9118	0.9706	3	0.968	0.4183
Office/service (20)	-0.0661	Error	36.0885	1.0025	36		
Students (4)	0.7344						
Housewives (5)	-0.3642						
Postpartum day interviewed							
3rd (5)	-0.5645	Groups	1.8254	0.9127	2	0.908	0.4120
4th (27)	0.0868	Error	37.1749	1.0047	37		
5th (8)	0.0599						

[a] Only those results are reported in which there is an absolute difference placing compared groups 20 or more percentile points apart.

Labour and delivery experiences. The presence or absence of the partner for labour was related to maternal physiological response. Women who had their partner present during labour had a higher mean factor score.

Initial contact and feeding of infant. The women who reported experiencing problems with their first breast-feeding episode tended to score lower on mean factor scores for Factor III than women who reported no problems. Reviewing the types of problems the women reported, the majority were related to the infant "fixing" properly on the breast. These problems could lead to improper breast-feeding techniques which would interfere with the ejection reflex. A second variable related to Factor III was the presence of the nurse for the first breast-feeding experience. The group assisted by the nurse had higher mean factor scores than the unassisted group. The women with the nurse present felt the nurse helped them with problems they encountered so it is reasonable to expect the reported results.

Hospital environment. Variables related to maternal physiological response under this heading were perceived support of the post-partum nurses towards breast-feeding and the women seeking advice from these nurses regarding breast-feeding. The group who perceived the nurses as supportive towards breast-feeding had a lower mean factor score than the group who perceived the nurses as unsupportive. However, women who sought advice from the nurses tended to have higher mean factor scores than those who did not seek advice. Support, although necessary for the breast-feeding mother, may not help her physiological response but correct advice on technical aspects of breast-feeding would be expected to help the mother.

Sociological variables. Age or highest educational attainment did not seem to be related to maternal physiological response. However, there was a difference among the four occupational groups. As with Factor I and II, students had the highest mean factor scores. Presented in Table 10 is a summary of the results of analysis of variance using Factor III as the dependent variable.

Summary

Analysis of variance was used as a descriptive technique to investigate the significance between groups of patients, with respect to variables felt to influence breast-feeding success. A number of interesting results were produced. The hospital environment seemed to be the most important construct when examining satisfaction of the new mother with the initiation of breast-feeding. The significant differences between subjects in terms of satisfaction indicated that women who felt they had adequate privacy for breast-feeding, were not interrupted during the feeding sessions, received consistent information regarding breast-feeding, were not experiencing questions and concerns regarding feeding and perceived the nurses in the postpartum setting to be knowledgeable and supportive, were more satisfied then the women who reported the opposite of these experiences. The other significant finding had to do with the women's preparation. Women who stated they felt prepared prior to the initiation of breast-feeding and based on their first breast-feeding experience stated that they were prepared for breast-feeding also scored higher on satisfaction.

No significant differences were found between groups of subjects in terms of lactation for any of the variables investigated. For the

TABLE 10

Analysis of Variance: Factor III-Maternal Physiological Response--Dependent Variable

Independent Variable Group[a] (n)		Group Mean	Source	Sum of Squares	Mean Squares	D.F.	F Ratio	F Probability
Decided prior to pregnancy								
No	(20)	-0.3425	Groups	4.6930	4.6940	1	5.198	0.0283*
Yes	(20)	0.3425	Error	34.3086	0.9029	38		
Partner present during labour								
No	(3)	-0.5157	Groups	0.8624	0.8624	1	0.859	0.3598
Yes	(37)	0.0418	Error	38.1390	1.0037	38		
Problems with first feeding								
Yes	(19)	-0.2938	Groups	3.1241	3.1241	1	3.309	0.0768
No	(21)	0.2658	Error	35.8774	0.9441	38		
Nurse present for first feeding								
No	(8)	-0.4671	Groups	2.1817	2.1817	1	2.252	0.1417
Yes	(32)	0.1168	Error	36.8197	0.9689	38		
Nurses supportive								
No	(7)	0.5537	Groups	2.6016	2.6016	1	2.716	0.1076
Yes	(33)	-0.1175	Error	36.3999	0.9579	38		
Sought advice from nurses								
No	(11)	-0.4280	Groups	2.7792	2.7792	1	2.916	0.0959
Yes	(29)	0.1623	Error	36.2223	0.9532	38		

[a] Only those results are reported in which there is an absolute difference placing compared groups 20 or more percentile points apart.

*Indicates significance at 0.05 level.

TABLE 10 (Continued)

Independent Variable Group[a] (n)	Group Mean	Source	Sum of Squares	Mean Squares	D.F.	F Ratio	F Probability
Occupation							
Professional (11)	-0.1872	Groups	2.7790	2.7792	1	2.916	0.0959
Office/service (20)	0.1656	Error	36.2226	1.0062	36		
Students (4)	0.3425						
Housewives (5)	-0.5246						

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[a] Only those results are reported in which there is an absolute difference placing compared groups 20 or more percentile points apart.

third factor, maternal physiological response, the timing of the woman's decision to breast-feed produced a statistically significant result. Women who had decided to breast-feed prior to pregnancy were more likely to report physiological responses to breast-feeding than women who had made their decision after pregnancy occurred. Physiological responses were felt to be indicators of success in initiating breast-feeding.

There were no significant differences between groups of patients in terms of age, occupation and educational level, and labour and delivery experiences. These results would suggest that for this group of patients, these variables were not important measures to identify the groups of patients who had successfully initiated breast-feeding with their newborn infants from those who had not.

Reliability of Instrument

As the research instrument was developed for this investigation, no previous reliability had been established for the major dependent variable, successful initiation of breast-feeding. In the conceptual model for this investigation successful initiation of breast-feeding was felt to contain two dimensions, a physiological and a psychological dimension. The factor analysis performed on the indicators of successful initiation of breast-feeding suggested a degree of reliability in that the variables separated into three factors; one psychological and two physiological. In addition, the KR-20 (Kuder-Richardson-20) was performed to test the reliability, or internal consistency, of the indicators of successful initiation of breast-feeding. A reliability coefficient of 0.7087 was obtained for these 12 indicators suggesting a moderate degree of internal consistency.

CHAPTER V

LIMITATIONS AND CONCLUSIONS

This chapter contains the limitations of the research project, as well as the conclusions from the research. Implications for nursing practice, education and research are explored.

Limitations

The subjects chosen for this study are not representative of any other group of new mothers initiating breast-feeding because of the method of selection of subjects. They were a convenience sample from one hospital at one particular point in time. Because of the questionable representativeness of the subjects, the results might be treated as descriptive only of the 40 subjects included in this study. Therefore, no inferences may be made to any other group.

A second limitation of this study relates to the validity of the research instrument. Although an attempt was made to establish at least subjective validity in the forms of content and face validity, the author did not establish subjective validity. Objective validity measures were not attempted. Further work is required to be performed on the instrument in order to establish validity.

A third limitation of the study is the small sample size. This may account for the small number of statistically significant results found in the analysis of variance on some of the variables. If some of the variables could be expected to have a small effect size, i.e., the phenomenon is present to a lesser degree in the population, a larger number of subjects would be required to get statistically significant results. A further limitation of the study is the research design. A follow-up of the subjects at four to six weeks postpartum would have provided more information on the number of subjects who were successful in initiating breast-feeding.

Conclusions

The first purpose of this study was to describe the experiences of primiparous women initiating breast-feeding with their newborn infants. A second purpose was to explore the relationship of variables reported in correlational and observational studies that are thought to be important to the outcome of breast-feeding, with the women's actual experiences. Keeping in mind the limitations of the study discussed above, the following conclusions are made, based on the results obtained for this particular group of subjects.

A description of any group's practices relating to an area such as infant feeding practices is of more than academic interest. These descriptions indicate the trends that are taking place with respect to a particular practice and can aid in the development of programs, e.g., to increase breast-feeding incidence and duration. The influence of sib-cultural groups was more important than the influence of health professionals in the mothers' decisions to breast-feed. The majority of women decided to breast-feed prior to pregnancy or very early in pregnancy. Therefore, programs that are aimed at increasing breast-feeding incidence would be best directed towards the adolescent female in family-life studies. The type of experience with breast-feeding that a woman perceived a relative or friend to have had exerted a greater influence on the woman's decision if she decided to breast-feed after pregnancy than if she decided to breast-feed prior to pregnancy. Improving the quality of women's experiences with breast-feeding may help increase the incidence of breast-feeding.

The women sought information about breast-feeding from a variety of sources. They tended to use health professionals, especially prenatal instructors, as they primary source of information. Most of the subjects felt they were prepared for breast-feeding prior to the experience and slightly fewer rated themselves prepared after the first breast-feeding episode.

Satisfaction with the initiation of breast-feeding was high in the early postpartum period. Factors in the hospital environment relating to breast-feeding, such as privacy for nursing and freedom from interruption, were satisfactory. The majority of subjects were satisfied with nurses in relation to breast-feeding. However, many women still had questions and concerns about breast-feeding at the time they were interviewed. The majority were also experiencing unresolved problems which are similar to those reported in previous research and are related to the most common reasons given by other women for discontinuing breast-feeding early.

Successful initiation of breast-feeding is based on both physiological and psychological factors. The psychological factor is the stronger of the two, particularly in the early postpartum period. The psychological factor, satisfaction, accounted for the largest percentage of variance (33.7%). Four of the five constructs used to predict success in initiating breast-feeding contained statistically significant results (α 0.05) using one-way analysis of variance. These four constructs were influences on a mother's decision to breast-feed her infant, preparation for labour and delivery, initial contact and feeding of the infant, and the hospital environment. How well prepared the woman felt she was for breast-feeding and how conducive the woman perceived the hospital environment to fostering conditions favourable to the initiation of breast-feeding showed the best relationship to satisfaction for the women who were beginning to breast-feed.

Variables measured under labour and delivery experiences presented no statistically significant results. Although previous research has suggested that early feeding contact is related to success in breast-feeding (Johnson, 1976; Eppink, 1969; Salariya et al., 1978) there was no evidence of such a relationship in this research.

Implications

This study has implications for nursing practice and education, as well as implications for further research.

Nursing Practice

Based on the results of this particular study, nurses in both community health settings and the postpartum hospital settings seemed to be influential in promoting successful initiation of breast-feeding between a mother and her newborn infant in the immediate postpartum period. The community health nurse is influential through her role in helping the woman prepare for breast-feeding. Prenatal classes are usually taught by the community health nurse and it is in these classes that expectant mothers obtain a great deal of their information regarding breast-feeding. Therefore, it is important that those nurses conducting the prenatal classes give information which is correct, consistent, and current. The community health nurse needs to be familiar with questions, concerns, and problems that new mothers commonly experience when beginning to breast-feed. If the nurse is familiar with these questions, concerns, and problems she will be able to provide anticipatory guidance to the future mother. The expected results of providing anticipatory guidance would be to decrease the new mother's anxieties and help to reduce the number of problems she experiences, or at least to deal more effectively with the problems that arise.

Nurses working in the postpartum units can influence the degree of success of new mothers in initiating breast-feeding primarily through the support given to nursing mothers. The nurse caring for the nursing mother has a 'doula' role to fulfill. It is the postpartum nurse who can give the psychological encouragement and physical assistance that is needed by the new mother to successfully initiate breast-feeding. The nurse working in the postpartum unit needs to be knowledgeable about breast-feeding. She needs to know correct techniques relating to breast-feeding to teach the new mother. The nurse also needs to meet the many informational needs of the new mother who is beginning to breast-feed. Since consistency of information seems to be important to the nursing mother, it may be helpful to develop a protocol to be used as a guide by the nurse in order to give consistent information.

Examination of the types of problems the women in the study reported experiencing at the time of the interview indicated that attention of nursing personnel to the condition of the breast and nipples of nursing mothers in the early postpartum period is important. Through the nurse's early assessment in this area, she can prevent or lessen such problems as sore nipples and engorgement.

Because the hospital environment was important to the mothers in successfully initiating breast-feeding, the postpartum nurse can help manipulate factors in this environment in order to influence success. The nurse can assess the amount of privacy the individual mother desires for breast-feeding and then ensure that the woman has the privacy that she needs. The nurse can also help to ensure that nursing care is organized so the woman has uninterrupted breast-feeding periods.

Nursing Education

Nurses in community health and hospital settings need to be knowledgeable about breast-feeding. This can be met initially through basic nursing education, and on an ongoing basis through continuing nursing education. Orientation programs for nurses who are beginning to work in either of the two areas, community health or postpartum care, should contain current information about breast-feeding. Inservice programs for nurses already working with expectant or nursing mothers should keep the nurses informed and knowledgeable about breast-feeding. In continuing education programs the results of the latest research on breast-feeding may be presented and discussed. Team conferences to discuss and plan appropriate interventions for breast-feeding mothers who are experiencing problems with different aspects of nursing would also be a helpful means of providing consistent information to these mothers. This approach potentially could decrease the amount of inconsistent information the patients receive and teach nurses how to deal effectively with breast-feeding problems.

Nursing Research

Further investigation is recommended on the research instrument to measure successful initiation of breast-feeding. Concurrent validity needs to be established for the instrument. Objective measures do exist which could be investigated and correlated with the results obtained from the administration of the interview in order to establish concurrent validity.

Some of the results obtained from the study were difficult to explain in light of current knowledge. One example is the presence of the woman's partner during labour being associated with lower mean factor scores for all three of the factors. It is possible that the partner's presence was an extraneous variable, i.e., had an irrelevant effect on the dependent variables (Polit & Hungler, 1978, p. 250), in this particular study. Other variables included may also have been extraneous. However, a larger number of subjects than were included in this study would be needed before a decision could be made regarding the effect of any of the variables. It is also recommended that the study have a longer time frame, i.e., the women followed up at four to six weeks postpartum.

The results which revealed significant differences need to be investigated further. Women who felt they were prepared for breast-feeding had higher factor scores for satisfaction than women who felt unprepared. Research is recommended to discover what contributes to a woman's perceived preparation. Similarly, research could indicated what contributes to mothers' perceptions of nurses as knowledgeable and supportive. Because the significant results covered rather broad topical areas, these areas need to be explored further. In conclusion, although the study accomplished the purpose of exploring and identifying variables related to successful initiation of breast-feeding, further research is required to explore these variables more fully. By further exploring these variables nurses in practice will have improved guidance to plan specific nursing interventions for the purpose of influencing successful initiation of breast-feeding between new mothers and their infants.

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APPENDIX A

LETTERS TO PHYSICIANS AND PARTICIPANTS

THE UNIVERSITY OF ALBERTA

FACULTY OF NURSING

CLINICAL SCIENCES BUILDING
EDMONTON, CANADA T6G 2G3

July 1, 1980

Dear Doctor ________________________:

I am currently a candidate for a Master's Degree in Nursing at the University of Alberta. My thesis will be an exploratory study of primiparae's experiences initiating breast-feeding in the early post-partum period. Data collection will take place during the period July 1-18, 1980; this will involve a set interview with the mother after her consent is obtained.

My research proposal has been approved at the Royal Alexandra Hospital by the Clinical Investigation Committee. I would appreciate your permission to interview your patient(s).

Thank you for your co-operation.

Yours sincerely,

Shirley M. Solberg, R.N.,B.N.
M.N. Candidate

Doctor's Signature ____

THE UNIVERSITY OF ALBERTA

FACULTY OF NURSING

CLINICAL SCIENCES BUILDING
EDMONTON, CANADA T6G 2G3

July , 1980

Dear Participant:

I am a graduate student in the Faculty of Nursing at the University of Alberta who is doing a Master's thesis in nursing. I am interested in studying the experiences that new mothers have when they begin to breast-feed their infants.

I would appreciate your help by having your permission to ask you some questions about your experiences breast-feeding your infant. All the responses that you give to the questions will be kept completely confidential.

The interview will be done at a time convenient to you and will take approximately 60 minutes. If you are willing to participate in this study, please sign below, detach the signed portion and return it to the nursing desk.

Thank you for your time and co-operation.

Yours sincerely,

Shirley M. Solberg
M.N. Candidate

I agree to voluntarily participate in the above study and I understand that all responses I give will be kept completely confidential.

Name: (Please Print):

Signature:

Date:

Room No.:

APPENDIX B

INTERVIEW SCHEDULE

INTERVIEW SCHEDULE

I. Question 1-8 relate to preparation for breast-feeding--Block B

To participant: First I would like to ask you some questions about your preparation for breast-feeding.

1. When in relationship to your pregnancy did you decide to breast-feed your baby?

____

Coding: 1. prior to pregnancy 2. first trimester
3. second trimester 4. third trimester

2. What sources did you use to find information on breast-feeding?

____

Did you use any of the following for information?

doctor _______
prenatal classes _______
family or friends _______
La Leche League (LLL) _______
Books or pamphlets _______
Other _______

Coding: 1. yes
2. no

3. Of the sources that you mentioned, which source was the most helpful?

____

Coding: 1. doctor 2. prenatal classes 3. family or friends 4. LLL 5. books or pamphlets 6. other

4. Did you attend prenatal classes? _______________

Coding: 1. yes 2. no 3. sometimes

Where? _______________________________________

(For non-attendance, what was your reason? _______________
____
____)

5. Did your partner attend prenatal classes with you? _______

Coding: 1. yes 2. no

6. In the classes you attended how much emphasis was placed on breast-feeding information compared with bottle-feeding information?

____

Coding: 1. more emphasis 2. less emphasis 3. equal 4. no information on bottle-feeding 5. no information on breast-feeding 6. not applicable

7. Did you prepare your nipples and/or breasts in any particular way during your pregnancy? ________________________________

Did you use any of the following methods?

1. rubbing nipples with towel or wash cloth? _______
2. nipple rolling exercises? _______
3. breast massage? _______
4. other (explain)? ____

Coding: 1. yes 2. no (for each)

8. Prior to the birth of your baby did you feel you were adequately prepared for breast-feeding? ________________________________

Coding: 1. yes 2. no 3. did not know

II. Questions 9-16 relate to decision to breast-feed--Block A

To participant: Mothers choose to breast-feed their babies for different reasons and various people influence this decision. The next questions I will ask you deal with your decision to breast-feed your baby.

9. What is your main reason for wanting to breast-feed this baby?

____

Coding: 1. infant-centered reason 2. mother-centered reason

10. Were you breast-fed as a baby? ________________________________

Coding: 1. yes 2. no 3. do not know

11. Do you have a sister/friend who has breast-fed within the past year? ____

Coding: 1. yes (sister) 2. yes (sister-in-law/cousin) 3. yes (friend) 4. yes (sister and friend) 5. no neither

12. What kind of experience did the sister/friend have? ______

____

Coding: 1. positive 2. negative 3. mixed
4. not applicable

13. Have you ever seen a baby being breast-fed? ______

Coding: 1. yes 2. no

14. Did you feel any embarrassment when you thought about breast-feeding your baby? ______

Coding: 1. yes 2. no 3. mixed feelings

(If yes or mixed--in what way? ______)

15. Was this pregnancy planned? ______

Coding: 1. yes 2. no

(If no, how did you feel about your pregnancy? ______

____)

16. Who was influential in your decision to breast-feed? ______

____

Did any of the following people have any influence?

1. doctor ______
2. partner ______
3. other, such as mother, sister, friend, etc. ______

Coding: 1. yes 2. no (for each)

III. Questions 17-23 relate to labour and delivery experience--Block C

To participant: Because the experiences during labour and birth are important to how both you and your baby feel after the baby has been born I would like to ask you some questions about these experiences.

17. Was your baby born the normal way or did you have an operation? ______

(If normal--Did you have an episiotomy--a cut to enable the baby to be born? ______)

17. Did the doctor need to use forceps to deliver the baby?

____

Coding:
1. vaginal with episiotomy
2. vaginal, no intervention
3. vaginal with episiotomy and forceps
4. caesarian section

The above information was verified through information from nurse and patient's chart.

18. How long was your labour? ______________________________

Coding:
1. very short--less than 4 hours
2. short--between 4 and 12 hours
3. moderate--greater than 12 but less than 24 hours
4. long--longer than 24 hours

19. How close to what you thought your labour would be like was your actual labour? ______________________________

In what way? ______________________________________

Coding: 1. very close 2. close 3. not at all--more difficult 4. not at all--easier

20. Would you say your delivery was:

(Coded by number)
1. very difficult
2. difficult
3. not difficult but not easy
4. easy
5. very easy

21. How close to what you thought your delivery would be like was your actual delivery? ______________________________

In what way? ______________________________________

Coding: 1. very close 2. close 3. not at all--more difficult 4. not at all--easier

22. Did you receive any drugs during labour? ________________

Coding: 1. yes 2. no

23. Was your partner present during labour and delivery?

____

Coding: 1. yes, labour only 2. yes, delivery only 3. yes, labour and delivery 4. neither

IV. Questions 24-32 relate to initial contact and feeding experiences with infant--Block D

To participant: The next questions I am going to ask you are about the baby, when you first held your baby, and when you first breast-fed your baby.

24. Did you have a boy or a girl? ______________________________

Coding: 1. boy 2. girl

25. Sometimes during pregnancy a woman begins to daydream about her baby and imagine what the baby will be like. Did this happen to you during your pregnancy? ____________________

(If yes, was your baby like you imagined he/she would be like?

____)

In what way(s)? ____

Coding: 1. yes, same sex 2. yes, same appearance
3. yes, same sex and appearance 4. no different sex
5. no different appearance 6. no different sex
7. did not imagine what the baby would be like

26. When did you first hold your baby? ____________________

Coding: 1. on the delivery table 2. not on the delivery table but within the first two hours after birth
3. >2 but <8 hours 4. 8 hours or more

27. When did you first breast-feed your baby? ______________

Coding: 1. on the delivery table 2. not on the delivery table but within the first two hours after birth
3. >2 but <8 hours 4. 8 hours or more

28. How did the baby react to the first feeding? ____________

____

Coding: 1. eagerly took breast with no or little assistance
2. was interested but needed some help
3. not too interested and needed much help
4. uninterested and refused to take the breast at this time

29. Did you have any questions/concerns about the first feeding?

____

(If yes, what were they? ______________________________________)

Coding: 1. yes 2. no

30. Did you have any problems with the first feeding? ________

(If yes, what kind of problem? ______________________)

Coding: 1. yes 2. no

31. Who was with you for your first feeding? ____________

Coding: 1. partner 2. nurse 3. partner and nurse
4. no one

(If someone present did you feel that it was helpful for someone to be with you for your first feeding? ________)

In what way? ______________________________

Coding: 1. yes 2. no 3. not applicable

32. After you first breast-fed your baby would you rate yourself as:

(Coded by number)
1. very well prepared
2. well prepared
3. unsure about preparation
4. unprepared
5. very unprepared

for breast feeding?

V. Questions 33-43 relate to the hospital environment--Block E

To participant: As a nurse I'm especially interested in how mothers feel that the hospital surroundings and the nurses caring for mothers and their babies help or hinder the mothers with breast-feeding. The next questions will be about the hospital and care you receive.

33. What type of hospital accommodation do you have? ________

____

Coding: 1. private 2. semiprivate 3. multiple bed ward

34. Was this the type of accommodation that you preferred?

____

Coding: 1. yes 2. no 3. no preference

35. Do you feel that this accommodation offers you enough privacy for breast-feeding? ____________

Coding: 1. yes 2. no

36. Does your baby "room-in"? ____________________

Coding: 1. yes 2. no

37. Is your baby on demand feeding? ____________________

Coding: 1. yes 2. no

38. Are breast-feeding periods organized in such a way that you are not interrupted for unrelated events? ____________________

Coding: 1. yes 2. no 3. sometimes

39. Since the baby has been born have you asked the following for advice on breast-feeding? ____________________

1. your doctor ________
2. any of the nurses ________
3. any one else (explain) ________

Coding: 1. yes 2. no (for each)

40. Has the information on breast-feeding that you have received from the nursing staff been consistent? ____________________

Coding: 1. yes 2. no 3. no information received

41. Would you rate the nursing staff you have come in contact with as:

(Coded by number)

1. very knowledgeable
2. knowledgeable
3. neutral
4. unknowledgeable
5. very unknowledgeable

about how to help a new mother with breast-feeding?

42. Would you say the nursing staff you have come in contact with are:

(Coded by number)

1. very supportive
2. supportive
3. neutral
4. unsupportive
5. very unsupportive

towards breast-feeding?

43. At present who or what has helped you most with breast-feeding?

____

Coding: 1. self 2. doctor 3. baby 4. nursery nurse
5. preparation 6. other (explain) 7. not applicable

VI. Questions 44-58 relate to success/failure in initiating a satisfactory breast-feeding experience--Block G

To participant: The next questions that I would like to ask you are about how you feel regarding breast-feeding and how it is working for you and your baby.

44. At present is your baby receiving any formula supplements from a bottle? ____________________

Coding: 1. yes 2. no 3. do not know

45. Do you feel your baby needs any glucose and water (sugar water) after you breast-feed him/her? ____________________

Coding: 1. yes 2. no

46. Sometimes when a woman begins to breast-feed her baby she feels different sensations. When you begin to breast-feed your baby do you ever notice:

1. a tingling or "pins and needles" sensation in your breast? __________
2. leaking of milk from the opposite breast? __________
3. abdominal contractions or cramps? __________

Coding: 1. yes 2. no (for each)

47. Do you have any breast engorgement, it is a swelling or fullness of the breasts? ____________________

(If yes, describe ______________________________)

Coding: 1. very engorged 2. engorged 3. slightly engorged
4. none

48. Do you feel your breast-milk has "come-in" (any milk in your breasts)? ______________________________

Coding: 1. yes, milk is in 2. yes, is beginning to come in
3. unsure 4. no

49. At present do you have any questions or concerns about breast-feeding? ____________________

Coding: 1. yes 2. no

(If yes, what are they? ______________________________

____)

50. Are you experiencing any problems with breast-feeding at present? ______________

Coding: 1. yes 2. no

(If yes, what kind of problems? ________________________)

51. Would you describe breast-feeding as:

(Coded by number)
1. very satisfying
2. satisfying
3. neutral
4. dissatisfying
5. very dissatisfying

experience for yourself?

52. Would you describe breast-feeding as:

(Coded by number)
1. very satisfying
2. satisfying
3. neutral
4. dissatisfying
5. very dissatisfying

experience for your baby?

53. At present do you feel you are:

(Coded by number)
1. very successful
2. successful
3. unsure
4. unsuccessful
5. very unsuccessful

in beginning to breast-feed your baby?

54. How long do you plan to breast-feed your baby? ____________

____

Coding: 1. less than one month 2. one month or more but less than three months 3. more than three months but less than six months 4. six months or more

55. Will it be necessary for you to discontinue breast-feeding your baby to return to work? ______________

Coding: 1. yes 2. no 3. unsure

56. Based on your present experience do you think you would breast-feed your next baby? ______________________

Coding: 1. yes 2. no 3. do not know 4. not planning to have another baby

57. Would you recommend breast-feeding to another new mother without hesitation? ____________

Coding: 1. yes 2. no 3. unsure

58. From your own experience what advice do you feel is important for a new mother planning to breast-feed? ____________

Coding: 1. preparation 2. other 3. do not know

To participant: Thank you for taking part in this study and for permitting me to interview you.

Sociological Data

1. Age: __________

2. Educational Level: __________

3. Occupation: __________

Additional Data

Date: __________

I.D.#: __________

Postpartum Day: __________

Type of Delivery: __________

Nursing Unit: __________

Length of Interview: __________